



มรส-ปทท
METROPOLITAN WATERWORKS AUTHORITY



CHANGE FOR BETTER

Annual Report 2019 • Metropolitan Waterworks Authority

CHANGE

FOR BETTER → LIFE → SERVICE → GIVING



Our care today can ensure your sustainable life tomorrow

MWA has changed today to make sure that our customer
will have a sustainable, better life tomorrow.

We start with care and responsibility in both our management and services.

With modern technologies and good governance, we offer happiness to
our consumers for their well-being and sustainable life.

Change for Better LIFE

Source = quality → Target = confidence

MWA has changed for the better by means of
successful management to produce the best quality water supplies
to ensure that people consume clean and safe water
with global standard for their smile and well-being.





Change for Better SERVICE

Source = innovations → Target = happiness

MWA has developed excellent services with happiness innovations,
improving our performance to become more effective,
convenient and faster in every aspect for a more convenient life of our consumers,
either in terms of service channels or technological system.

Government Center
& Bangkok Express Service

e-Service

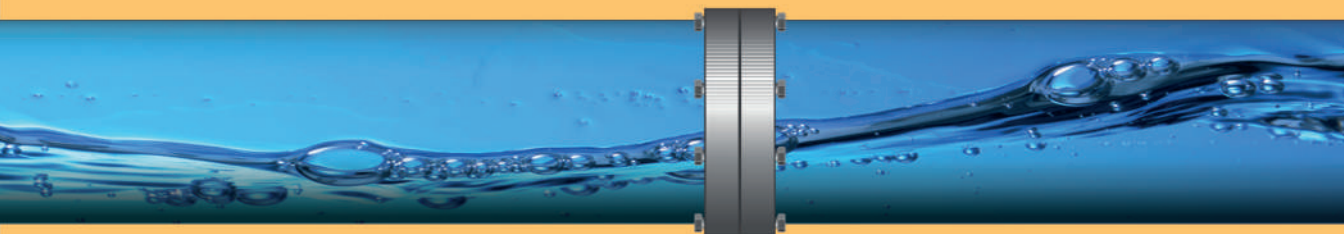


All Services



MWA onMobile

MWA onMobile



Change for Better GIVING

Source = giving → Target = sustainability

MWA has created an organization culture with transparency and social responsibility under good governance. We care for all the stakeholders because we believe that giving and being responsible will lead not only us but also the society to success and sustainable future.

MWA
Plumber
for People
Project

Better
Canal Walkway
for Well-being
Project

MWA
Consumer
Meeting
Activity



MWA
Project to
Conserve
Watershed
Forest

Water
Conservation
Camp
Project

Following
our Father's
Footsteps, MWA
for People in
Watershed Area
Project



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Caring for the environment and readers' health, the MWA prints this annual report with vegetable-based ink (soy ink).



General Information



Metropolitan Waterworks Authority (MWA) is a state enterprise under the Ministry of interior. It started its operation on 16 August 1967 under the Metropolitan Waterworks Authority Act B.E. 2510 (AD 1967) with an obligation to provide raw water sources for waterworks activities, including producing, distributing and selling treated water in Bangkok, Nonthaburi and Samut Prakan, and running other businesses related or beneficial to the waterworks.

The Government's Statement of Direction for State Enterprises is comprised of 3 levels

1. Overall Policy for State Enterprises

To be a mechanism which drives economic strategy and society of the nation based on effective operation in accordance with good governance principles.

2. Policy for State Enterprises in Public Utilities Sector

To satisfy basic needs, promote improvement of citizens' quality of life and develop immovable property for the best benefits.

3. Policy for MWA

To improve and expand waterworks system network for quality and adequacy in order to accommodate urbanization, and to develop related business to add value to the organization.



Vision

“To be a high performance water supply organization with excellent corporate governance and reach international standard”

Mission

1. Develop organization growth and sustainability
2. Implement water safety plan according to WHO standard by assuring the stability of water resource production and transmission
3. Deliver professional water supply service to reach and balance stakeholder needs
4. Improve people's quality of life by expanding water services and societal responsibility all over Thailand

Values

QWATER :

Q	:	Q uality
W	:	W illingness
A	:	A chievement
T	:	T eam
E	:	E xcellent Service
R	:	R espect to Transparency

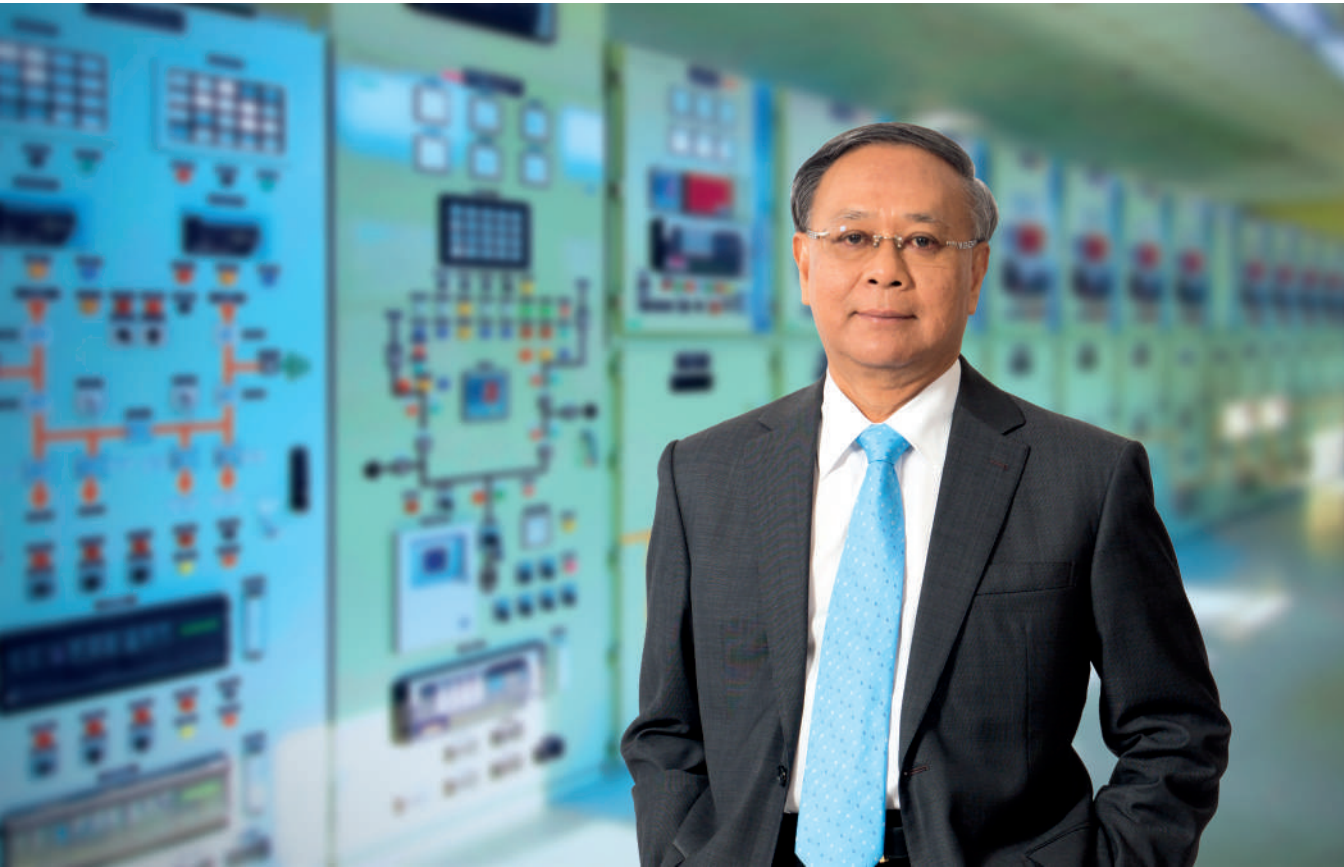
Message from the Chairman

Metropolitan Waterworks Authority (MWA) has been responsible for the production and distribution of water supplies in Bangkok, Nonthaburi and Samutprakarn for 52 years to guarantee that quality water with global standard is accessible by every household in the areas. MWA also promotes good relationship with communities living east and west of the watershed area to promote water preservation. In the age of urbanization, MWA has always been putting a conscious effort to provide our services and adhering to our mission to promote well-being of people in the society and to provide them with services that are beyond their expectation according to the framework of the Ministry of Interior.

MWA has run the organization according to the progressive policies of the MWA Board of Directors to make the MWA one of the national leading state enterprises. We have adopted different technologies and innovations to constantly develop waterworks for effective production and distribution of the services. MWA has thrived to be an organization with excellent service according to Digital MWA policies. The MWA on Mobile application was developed to facilitate our customers in paying for the bill via the application using their credit cards. Additionally, the application provides a notification alert function of areas with slow-running water and allows users to check statistics of water usage in the past years and real-time quality of the water supplies. The adoption of the MWA on Mobile application does not only provide our customers with useful information in the digital age, but also complies with Thailand 4.0 policy that emphasizes the application of innovations to drive the national economy resulting in Good Public Service award for service development from the 2019 Public Sector Excellence Awards. Also, MWA won a Silver Award from Thailand Kaizen Award 2019 for Genba Kaizen from the development of "Sanitary Canvas Basin."

Regarding "Change for Better" policy, MWA initiated a project to change and improve water pipes in different service areas to expand its waterworks services to cover the entire area in the community to ensure the sustainability of the waterworks infrastructure. MWA initiated the Water Safety Plan (WSP) to ensure that our customers consume clean, safe, and sufficient water supplies with good quality, while the organization sought to improve the effectiveness of water balance to manage non-revenue water in the future to drive our services to meet the global standard.

The MWA Board of Directors has emphasized that the organization is governed with the principles of good corporate governance and declared "**transparency, accountability and zero corruption**". MWA has encouraged every part of the community to fight against corruption within the organization to sustainably lead the organization to become a Zero Corruption organization.



Recently, MWA won Asia Responsible Enterprise Awards 2019 for Corporate Governance from the MWA CG Council hosted by Enterprise Asia. MWA was also awarded an honorable prize in the 8th Transparent Organization Award from Office of the National Anti-Corruption Commission (NACC).

On behalf of MWA Board of Directors, executives, employees and operators, I would like to express my gratitude to Thai people, public and private organizations and every other parts of the community for your trust and cooperation. MWA promises that we will continuously improve every aspect of our performance for the benefits of Thai people. We will walk steadily with Thai people just like our resolution, **“Quality water for quality life.”**

“
MWA declared
“transparency, accountability
and zero corruption”
by encouraging every part
of the community to
fight against corruption
”

(Mr. Vullop Phringphong)

Chairman, MWA Board of Directors

Message from the Governor

The development of Metropolitan Waterworks Authority (MWA) in 2019 was performed based on different major strategic frameworks that are the National Strategy, the National Reform plans, the 12th National Economic and Social Development Plan, Ministry of Interior's Main Strategic Plans (2017 - 2021) and State Enterprise Strategies for public utility to provide waterworks-related services to Thai people

More importantly, MWA has adopted a development plan under the concept **"Change for Better"**, which consists of three main dimensions. First, **"Change for Better Life"** dimension focuses on the improvement of water pipe system, the implementation of Water Safety Plan (WSP) and The Ninth Bangkok Water Supply Improvement Project. The second dimension **"Change for Better Service"** is to improve every aspect of our service system, including the adoption of technology to respond to life styles of people in the digital age. Lastly, **"Change for Better Giving"** dimension focuses on creating transparency and ensuring zero corruption in the organization. Additionally, the organization aims to initiate valuable activities and projects for society to ensure the sustainable waterworks services throughout the supply chain.



Most importantly, one of the keys to the MWA performance that MWA executives at all levels have always adhered to is to transfer the “**QWATER**” core values to our colleagues and operators in every level for them to perform their work with “**perseverance and self-assertiveness for better performance and services with transparency and the best quality**” reflecting the value of MWA as the protector of Thai people’s well-being.

“
MWA has adopted
a development plan
under the concept
“Change for Better”
”

(Mr. Prinya Yamasamit)

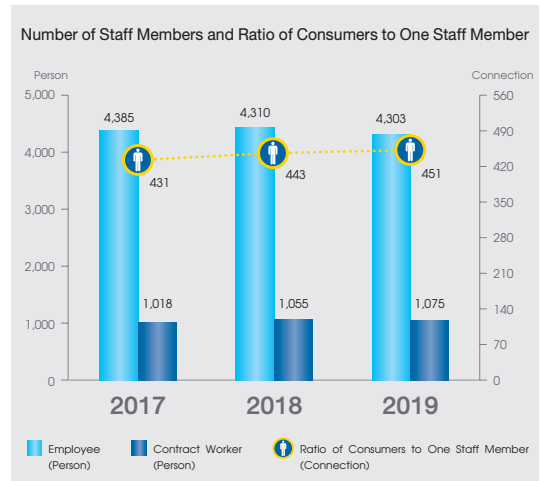
MWA Governor



Organization Structure

Workforce Structure

As of 30 September 2019, the Metropolitan Waterworks Authority had a total of 5,378 staff members, including 4,303 employees and 1,075 contract workers. The total expenditure on personnel was 3,371.04 million baht, consisting of 3,160.55 million baht for employee expenditure and 210.49 million baht for expenditure on contract workers.



Operation Line	Workforce (person)					
	2019			2018		
	Employee	Contract Worker	Total Staff	Employee	Contract Worker	Total Staff
1. Governor	281	87	368	283	81	364
2. Deputy Governor (Administration)	290	68	358	278	70	348
3. Deputy Governor (Finance)	167	16	183	168	17	185
4. Deputy Governor (Eastern Services)	1,184	295	1,479	1,200	292	1,492
5. Deputy Governor (Western Services)	936	214	1,150	947	203	1,150
6. Deputy Governor (Engineering and Construction)	366	56	422	357	54	411
7. Deputy Governor (Water Production and Transmission)	865	311	1,176	864	310	1,174
8. Deputy Governor (Planning and Development)	94	17	111	95	17	112
9. Deputy Governor (Information Technology)	120	11	131	118	11	129
Total	4,303	1,075	5,378	4,310	1,055	5,365

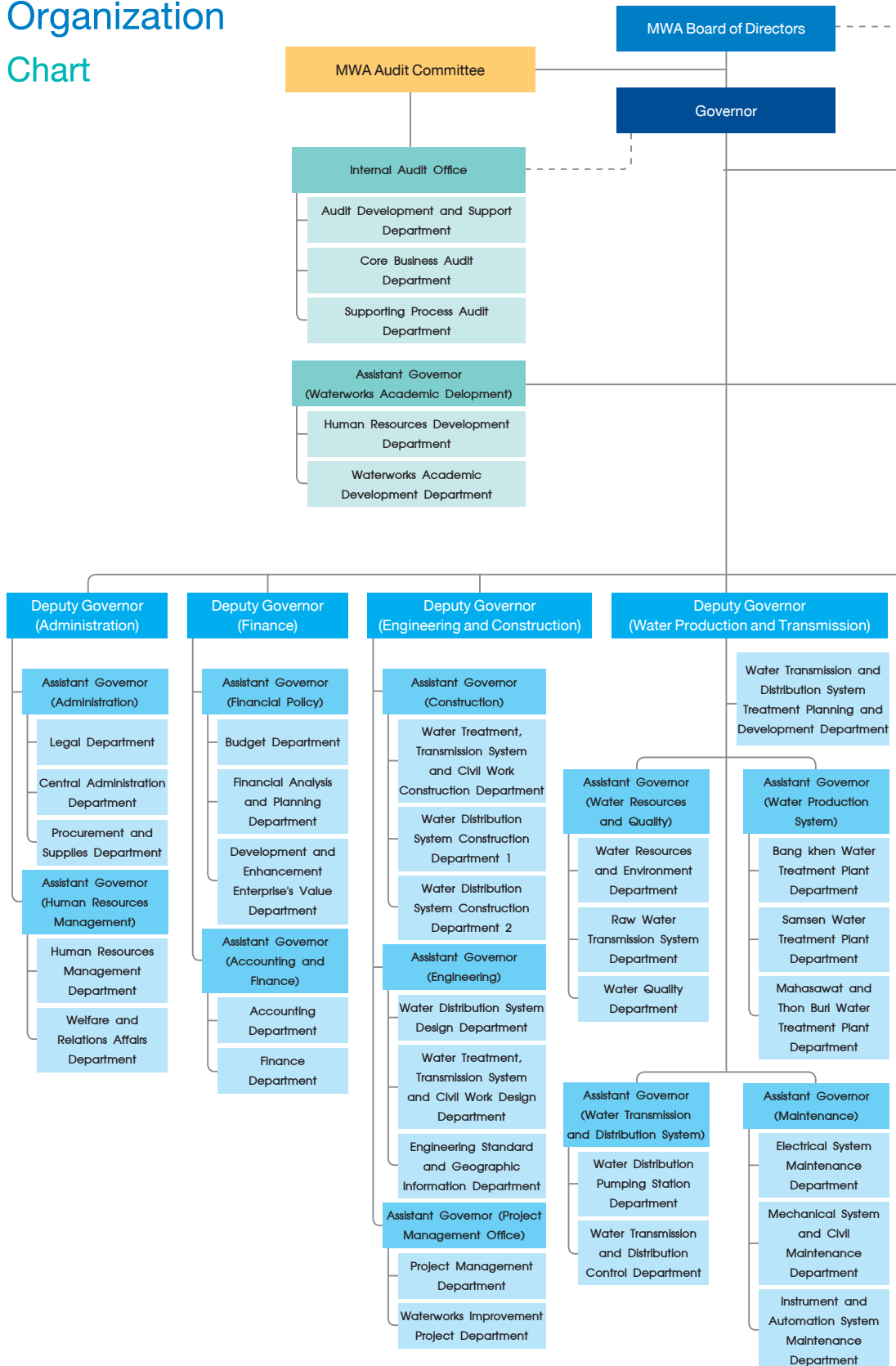
As of 30 September 2019

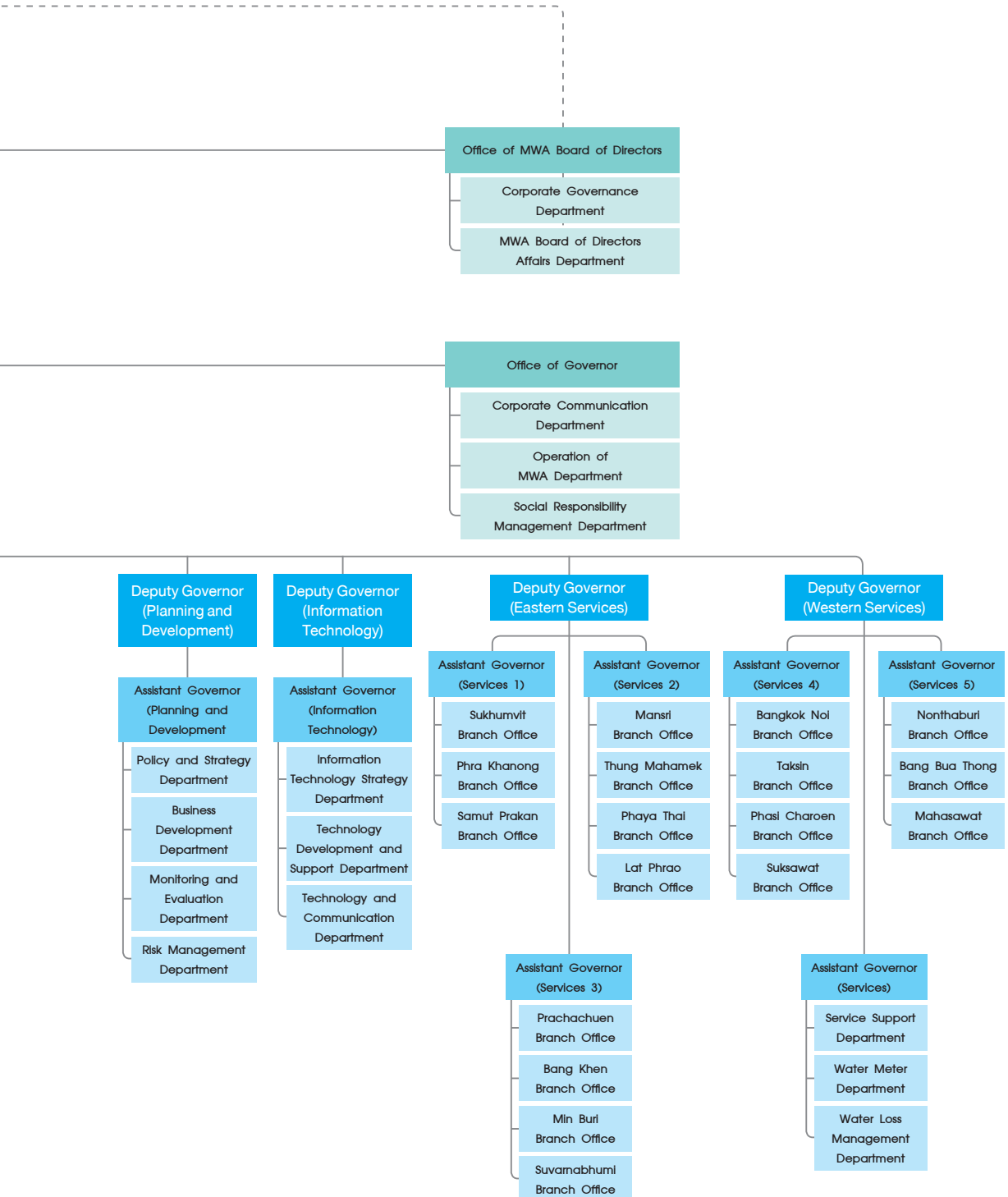
Personnel-related expenses over the past three years

Operation Line	Total Expenses (Million Baht)								
	Employee			Contract Worker			Total		
	2019	2018	2017	2019	2018	2017	2019	2018	2017
1. Governor	257.38	224.95	214.57	14.34	15.65	15.71	271.72	240.61	230.28
2. Deputy Governor (Administration)	214.16	186.58	181.85	10.83	12.42	12.34	224.98	199.00	194.19
3. Deputy Governor (Finance)	140.72	118.78	111.55	2.37	2.71	2.94	143.09	121.48	114.49
4. Deputy Governor (Eastern Services)	811.90	696.52	674.03	63.32	67.58	63.39	875.22	764.10	737.42
5. Deputy Governor (Western Services)	673.60	577.56	558.68	51.89	52.66	48.85	725.49	630.22	607.53
6. Deputy Governor (Engineering and Construction)	217.92	179.53	133.96	8.80	9.65	9.51	226.72	189.18	143.47
7. Deputy Governor (Water Production and Transmission)	654.31	560.85	545.95	56.50	64.98	59.41	710.81	625.83	605.36
8. Deputy Governor (Planning and Development)	84.87	72.91	76.05	1.05	1.19	1.20	85.92	74.10	77.25
9. Deputy Governor (Information Technology)	105.69	89.60	94.08	1.39	1.76	1.87	107.08	91.37	95.95
Total	3,160.55	2,707.28	2,590.73	210.49	228.60	215.22	3,371.04	2,935.88	2,805.95

Note: * Expenses data for employees and contract workers are based on expense reports from ZCOR 060 Capital Center, Department of Accounting. The 12 installments were counted until on 30 September 2019. The data was derived from "Salary, welfare provision and compensation section" except for "operation expenses transferred to the project" and "lump sum expenses for labor (54001000)."

Organization Chart





MWA

Board of Directors (As of 30 September 2019)



4

3

1

2

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1. Mr. Vullop Phringphong
Chairman and Independent Director
2. Mr. Nisit Jansomwong
Director
3. Professor Suwatana Chittaladakorn, Ph.D.
Independent Director
4. Mr. Wanchai Lawattanatrakul
Independent Director
5. Mr. Nattakit Tangpoonsinthana, Ph.D.
Independent Director



7

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8

11

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6. Assistant Professor Teekawuth Potapirom
[Independent Director](#)
7. Mr. Chaichana Mitrpant, Ph.D.
[Independent Director](#)
8. Mr. Thongplew Kongjun, D.Eng.
[Independent Director](#)
9. Associate Professor Chanin Tinnachote, Ph.D.
[Independent Director](#)
10. Mrs. Siriporn Luangnual
[Director](#)
11. Mr. Prinya Yamasamit
[Director and MWA Governor](#)

MWA

Board of Directors

Mr. Vullop Phringphong

Position: Chairman and Independent Director

(Until 9 October 2019)

Age: 65

Education/Training:

- Bachelor of Arts (Political Sciences), University of Delhi, India
- Master of Arts (Political Science), Bowling Green State University, USA
- Chief District Officers Program (Class 31), Institute of Administration Development, Department of Provincial Administration
- High Level Senior Administration Program (Class 32), Institute of Administration Development, Department of Provincial Administration
- National Defence College of Thailand (Class 49)
- Capital Market Academy (Class 14)
- Certificate of Director Certification Program (DCP 170), Thai Institute of Directors

Work Experience:

- Chief District Officer of Ban Chang, Rayong Province
- Chief District Officer of Mueang Trat, Trat Province
- Chief District Officer of Mueang Rayong, Rayong Province
- Director of Local Finance Bureau, Department of Local Administration
- Deputy Director-General, Department of Local Administration
- The Representative of Thai Government to the Loan Negotiation with World Bank according to the Urban Development at Washington, D.C., USA
- The Representative of Thai Government to the Ministerial Meeting on Poverty Alleviation under Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) at Kathmandu, Nepal
- The Representative of Thai Government to the ASEAN Ministerial Meeting on Rural Development and Poverty Eradication (AMMRDPE) at Bandar Seri Begawan, Brunei Darussalam
- Governor of Phrae Province
- Governor of Samut Sakhon Province
- Deputy Permanent Secretary, Ministry of Interior
- Director of Provincial Electricity Authority
- Director, as the representative from Ministry of Interior, Sports Authority of Thailand
- Director-General, Department of Local Administration
- Member of National Reform Council
- Member of National Reform Steering Assembly
- Subcommittee in Public Sector Development Commission, Office of the Public Sector Development Commission

Present Positions:

- Chairman and Independent Director of MWA Board of Directors (Until 9 October 2019)
- Qualified Director, the National Land Policy Committee
- Qualified Director, the Commission on Local Government Personnel Standards
- Subcommittee in Civil Service Commission about Human Resources System Development, Office of the Civil Service Commission

Holding the positions of directors/high-level executives in state enterprises/other juristic persons:

- Qualified Director, the National Land Policy Committee
- Qualified Director, the Commission on Local Government Personnel Standards

Securities holding (shareholding) in a juristic person related to core business:

Non

Juristic persons related to MWA directors:

Non

Mr. Nisit Jansomwong

Position: Director

Age: 57

Education/Training:

- Bachelor of Arts (Political Science) (First-Class Honors, Gold Medal), Chulalongkorn University
- Master of Arts (Political Science) (Excellent honors), Chulalongkorn University
- Certificate of District Chief Program (Class 41) Institute of Administration Development
- Certificate of New Public Management (Class 2) Office of the Civil Service Commission
- Advanced Certificate Course in Politics and Governance in Democratic Systems for Executive, (Class 11), King Prajadhipok's Institute
- Certificate of The Joint State-Private Course (Class 23), National Defence College of Thailand
- Advanced Certificate Course in Justice Administration (Class 3), Office of Justice Affairs
- Advanced Certificate Course in Politics and Elections Development (Class 4), Office of The Election Commission of Thailand
- Certificate of Senior Budget Administrator (Class 2), Bureau of the Budget
- Director Certification Program (DCP) (Class 253)
- Advanced Certificate Course of Capital Market Academy Programs (Class 28)
- Certificate of College of the Constitutional Court (Class 6)

Work Experience:

- Head of Plan and Develop the Staffing System Group, The Secretariat of the Cabinet
- Head of Social Work Group, Executive Office of the Cabinet, The Secretariat of the Cabinet
- Specialists in Strategic Development and Management Systems, Management System Development Group, The Secretariat of the Cabinet
- Director, Bureau of Strategic Development and Special Policy Monitoring, The Secretariat of the Cabinet
- Director General, Office of Policy and Planning, Office of the Permanent Secretary for Defence
- Vice Governor of Samutprakarn Province
- Deputy Director General, Community Development Department
- Director, Center for Recovery Management System Office of the Prime Minister
- Advisor to Provincial Administration Integrity
- Deputy Director, Office of Thai Women Empowerment Funds, Office of the Prime Minister
- Chief of Inspector for Interior, Office of the Inspector for Interior
- Governor of Prachuapkhirkhan Province
- Governor of Ratchaburi Province
- Governor of Phuket Province
- Governor of Nonthaburi Province
- Deputy Permanent Secretary for Interior
- Director General of Community Development Department

Present Positions:

- Director General of Department of Lands
- Director of Metropolitan Waterworks Authority
- Director of Thailand Post Distribution Company Limited
- Chairman of Audit Committee of Thailand Post Distribution Company Limited Year 2019
- Subcommittee of Public Sector Audit and Evaluation
- Subcommittee of Independent Director of Performance Enhancement for Human Resource Management of Office of the Civil Service Commission
- Subcommittee of Human Resource Development of Metropolitan Waterworks Authority
- The Law Reform in Urgent Stage Commission
- Subcommittee of Improvement or Abrogation of Unnecessarily Burdensome Laws

Holding the positions of directors/high-level executives in state enterprises/other juristic persons:

- Chairman of Audit Committee of Thailand Post Distribution Company Limited Year 2019
- The Law Reform in Urgent Stage Commission
- Director General of Community Development Department (Director General of Department of Land, since 1 Oct. 2019)

Securities holding (shareholding) in a juristic person related to core business:

Non

Juristic persons related to MWA directors:

Non

Professor Suwatana Chittaladakorn, Ph.D.**Position: Independent Director**

Age: 65

Education/Training:

- Bachelor of Engineering (Irrigation Engineering), Kasetsart University
- Master of Engineering (Irrigation Engineering), Kasetsart University
- Doctor of philosophy (Irrigation Engineering), Utah State University, USA
- Good Governance for State Enterprise/Public Organization Directors & Executives Program (Class 13), King Prajadhipok's Institute

Work Experience:

- Vice-Chairman of the Sub-committee for Water Resources Management Reform, National Reform Council (NRC)
- Advisory Committee for Water Resources Management Policy Setting, Economic Department, National Council for Peace and Order (NCPO)
- Advisory and Chairman of the Sub-committee for Water Resources Engineering, the Engineering Institute of Thailand under H.M. the King's Patronage (EIT)
- Advisory and member of the Civil Engineering Committee, the Engineering Institute of Thailand under H.M. the King's Patronage (EIT)
- Member of the Expert Committee for Consideration of the Environmental Impact Assessment Analysis-Report for Government and Public-Private Partnership Transportation Projects, Nation Environmental Board
- Department Head, and the Chairman of Steering Committee for the Special Graduate Program, Department of Water Resources Engineering, Faculty of Engineering, Kasetsart University

Present Positions:

- Independent Director of Metropolitan Waterworks Authority
- Special Expert in Department of Water Resources Engineering, Faculty of Engineering, Kasetsart University
- Sub-committee on Situation Analysis and Management of Water Resources, National Water Resources Board
- Advisory Board of Faculty of Engineering, Mahasarakham University
- Consultant of Working Group on Facts and Conflict Resolution of Water Resources Development Project, Ministry of Agriculture and Cooperatives
- Advisory Board of Working Group Directorate of Water Management, Office of the National Water Resources
- Committee member of Senior Engineering and Advisory Board of Civil Engineering, The Engineering Institute of Thailand Under H.M. The King's Patronage

Holding the positions of directors/high-level executives in state enterprises/other juristic persons:

Non

Securities holding (shareholding) in a juristic person related to core business:

Non

Juristic persons related to MWA directors:

Non

Mr. Wanchai Lawattanatrakul**Position: Independent Director**

Age: 63

Education/Training:

- Bachelor of Engineering (Civil Engineering), Chulalongkorn University
- Master of Engineering (Water Resources Development), Asian Institution of Technology
- Advanced Certificate Course in Politics and Governance in Democratic Systems for Executive (Class 6), King Prajadhipok's Institute
- Diploma of the Joint State - Private Sector Course (Class 19), National Defence College
- The Executive Program in Energy Literacy for a Sustainable Future class 13, Thailand Energy Academy

Work Experience:

- Chief of Planning and Policy Section, Provincial Waterworks Authority
- Vice President, Planning and Business Development Department, Eastern Water Resources Development and Management Public Company Limited
- Senior Vice President, Planning and Business Development Department, Eastern Water Resources Development and Management Public Company Limited
- Chief Executive Officer, Eastern Water Resources Development and Management Public Company Limited
- Director, Global Water Systems Corporations Company Limited
- Director, Universal Utilities Company Limited
- Director, EGCOM TARA Company Limited
- Director, Eastern Hobas Pipes Company Limited
- Director, Metropolitan Waterworks Authority
- Vice Chairman of Water Supply and Distribution Project Planning and Monitoring Subcommittee, Ministry of Natural Resources and Environment
- Director, Industrial Estate Authority of Thailand
- Director and Academic Committee, Thai Waterworks Association
- Director, Thailand Water Resources Association

Present Positions:

- Independent Director of Metropolitan Waterworks Authority
- Director and Chairman of Audit Committee, SPCG Public Company Limited

Holding the positions of directors/high-level executives in state enterprises/other juristic persons:

- Director and Chairman of Audit Committee, SPCG Public Company Limited

Securities holding (shareholding) in a juristic person related to core business:

Non

Juristic persons related to MWA directors:

Non

Mr. Nattakit Tangpoonsinthana, Ph.D.

Position: Independent Director

Age: 55

Education/Training:

- Bachelor of Communication Arts (Mass Communication), Chulalongkorn University
- Master of Business Administration, University of North Texas, USA
- Doctor of Mass Communication (Television Administration), Chulalongkorn University
- Certificate of Director Certification Program (DCP 209), Thai Institute of Directors
- Certificate of Good Governance for State Enterprise/Public Organization Directors & Executives Program (Class 14), Public Director Institute, King Prajadhipok's Institute
- Top Executive Program in Commerce and Trade (TEPCoT) (Class 11), University of the Thai Chamber of Commerce
- Capital Market Leader Program, Capital Market Academy (CMA-24)
- Industrial Business Development and Investment Program for Top Executives, Institute of Business and Industrial Development (Class 2)
- Diploma, National Defense Course 62
- TME Tourist Management Program for Executive

Work Experience:

- Account Director of Lintas Worldwide Advertising Company Limited (Thailand)
- Associate Director in Marketing and Sales Division, Samart Corporation Public Company Limited
- Lecturer in Department of Mass Communication, Faculty of Communication Arts, Chulalongkorn University
- Chief Marketing Officer, Thai Samsung Electronics Company Limited
- Advisor in Public Relations to Ministry of Commerce and Ministry of Labour
- Advisor to Minister of Science and Technology
- Advisor to Deputy Minister of Agriculture and Co-Operatives

Present Positions:

- Independent Director of Metropolitan Waterworks Authority
- Senior Executive Vice President of Central Group
- Executive Vice President in Marketing Line, Central Pattana Public Company Limited
- Director, Siam Rajathane Company Limited
- Chairman of Marketing Management Group, Thailand Management Association (TMA)
- Subcommittee: Thailand National Committee on Competitive Benchmarking Development

Holding the positions of directors/high-level executives in state enterprises/other juristic persons:

- Director, Siam Rajathane Company Limited
- Senior Executive Vice President of Central Group
- Executive Vice President in Marketing Line, Central Pattana Public Company Limited

Securities holding (shareholding) in a juristic person related to core business:

Non

Juristic persons related to MWA directors:

Non

Assistant Professor Teekawuth Potapirom

Position: Independent Director

(Until 11 October 2019)

Age: 65

Education/Training:

- Bachelor of Engineering (Civil Engineering), Kasetsart University
- Master of Science (Ocean and Fisheries Engineering), Kagawa University, Japan
- Good Governance for State Enterprise/Public Organization Directors & Executives Program (Class 13), King Prajadhipok's Institute

Work Experience:

- Lecturer in Department of Fishery Management, Faculty of Fisheries, Kasetsart University
- Assistant Professor in Department of Water Resources Engineering, Faculty of Engineering, Kasetsart University
- Advisor to Deputy Minister of Transport
- Committee of Experts to report an analysis of the environmental impacts of transportation projects with public sector or private
- Chairman, Master of Water Resources Engineering Special Program, Faculty of Engineering, Kasetsart University
- Working Committee of Problem Solution at Mae Saluai Dam, Chiang Rai
- Advisor to Committee in Water Resources Engineering, The Engineering Institute of Thailand under H.M. King's Patronage

Present Positions:

- Independent Director of Metropolitan Waterworks Authority (Until 11 October 2019)
- Specialized Lecturer in Department of Water Resources Engineering, Faculty of Engineering, Kasetsart University

Holding the positions of directors/high-level executives in state enterprises/other juristic persons:

Non

Securities holding (shareholding) in a juristic person related to core business:

Non

Juristic persons related to MWA directors:

Non

Mr. Chaichana Mitrpant, Ph.D.**Position: Independent Director**

Age: 46

Education/Training:

- B.S. (Electrical Engineering), Rice University, U.S.A.
- M.S. (Electrical Engineering), University of Michigan, U.S.A.
- Dr. Ing. (Engineering), University Duisburg-Essen, Germany
- Certified Information Systems Security Professional: CISSP
- Advanced Certificate Course in Politics and Governance in Democratic Systems for Executive (Class 20), King Prajadhipok's Institute
- Certificate of Good Governance for State Enterprise/Public Organization Directors & Executives Program (Class 14), Public Director Institute, King Prajadhipok's Institute
- Certificate of National Security Management for Senior Executives (Class 7), National Intelligence Agency
- Certificate of Executive Development Program in 2017 (Class 9), Ministry of Finance
- Certificate of Director Certification Program (DCP 199), Thai Institute of Directors
- Certificate of Advanced Audit Committee Program (AACP 34), Thai Institute of Directors
- Certificate of Risk Management Program for Corporate Leaders (RCL 18), Thai Institute of Directors

Work Experience:

- Researcher Assistant, Network Technology Laboratory National Electronics and Computer Technology Center
- Chief, Research and Applied Encryption, National Electronics and Computer Technology Center
- Chief, Digital Forensic and Investigation Unit, National Electronics and Computer Technology Center
- Director, Radio Frequency Identification Program, National Electronics and Computer Technology Center
- Executive Director, Information Technology Infrastructure Security Unit, National Electronics and Computer Technology Center

Present Positions:

- Independent Director of Metropolitan Waterworks Authority
- Deputy Executive Director, Electronic Transactions Development Agency
- Independent Director of PTIT Oil and Retail Business Company Limited

Holding the positions of directors/high-level executives in state enterprises/other juristic persons:

- Independent Director of PTIT Oil and Retail Business Company Limited
- Deputy Executive Director, Electronic Transactions Development Agency

Securities holding (shareholding) in a juristic person related to core business:

Non

Juristic persons related to MWA directors:

Non

Mr. Thongplew Kongjun, D.Eng.**Position: Independent Director**

Age: 58

Education/Training:

- Bachelor of Engineering (Civil Engineering), College of Technology and Vocational Education (Thewet Campus)
- Master of Engineering (Irrigation Engineering), Kasetsart University (Kamphaengsaen Campus)
- Doctor of Engineering (Irrigation Engineering), Kasetsart University (Kamphaengsaen Campus)
- Advanced Certificate Course in Management of Public Economics for Executives, The College of Politics and Governance, Class 11, King Prajadhipok's Institute
- Advanced Course in Governing Office, Class 63, Interior College, Prince Damrong Rajanuphap Institute
- Diploma in the National Defence Course, Class 59, National Defence College
- The Rule of Law for Democracy, Class 7, The Constitutional Court of the Kingdom of Thailand

Work Experience:

- Director, Irrigation Development Institute, Royal Irrigation Department
- Director, Hydrology Division, Royal Irrigation Department
- Director, Office of Water Management and Hydrology, Royal Irrigation Department
- Deputy Director General for Operation and Maintenance, Royal Irrigation Department

Present Positions:

- Independent Director of Metropolitan Waterworks Authority
- Director General, Royal Irrigation Department

Holding the positions of directors/high-level executives in state enterprises/other juristic persons:

- Director General, Royal Irrigation Department

Securities holding (shareholding) in a juristic person related to core business:

Non

Juristic persons related to MWA directors:

Non

Associate Professor Chanin Tinnachote, Ph.D.

Position: Independent Director

Age: 57

Education/Training:

- Bachelor of Engineering (Survey Engineering), Chulalongkorn University
- Master of Science (Integrated Map and Geo-Information Production), International Institute for Aerospace Survey and Earth Sciences (ITC), The Netherlands
- Doctor of Engineering (Remote Sensing and Geographic), Asian Institute of Technology
- Certificate of Director Certification Program (DCP 201), Thai Institute of Directors
- Certificate of Advanced Audit Committee Program (AACP 18), Thai Institute of Directors
- Certificate of Good Governance for State Enterprise/Public Organization Directors & Executives Program (Class 13), Public Director Institute, King Prajadhipok's Institute
- Certificate of Environmental Governance for Executive Officer (EGEO 4), Department of Environmental Quality Promotion
- Risk Management Program for Corporate Leaders (RCL 1), Thai Institute of Directors
- Driving Company Success with IT Governance (ITG 2), Thai Institute of Directors
- Financial and Fiscal Management Program for Senior Executive (Class 4), The Comptroller General's Department
- Digital CEO (Class 1), Digital Economy Promoting Agency (DEPA)

Work Experience:

- Director of Surveying and Mapping Society of Thailand
- Director of Geo-Informatics and Space Technology Development Agency (Public Organization)
- Director of Eastern Water Resources Development and Management Public Company Limited

Present Positions:

- Independent Director of Metropolitan Waterworks Authority
- Director of Universal Utilities Public Company Limited
- Associate Professor in Survey Engineering, Faculty of Engineering, Chulalongkorn University

Holding the positions of directors/high-level executives in state enterprises/other juristic persons:

- Director of Universal Utilities Public Company Limited

Securities holding (shareholding) in a juristic person related to core business:

Non

Juristic persons related to MWA directors:

Non

Mrs. Siriporn Luangnual

Position: Director

(Until 30 September 2019)

Age: 60

Education/Training:

- Bachelor of Business Administration, Ramkhamhaeng University
- Master of Business Administration, Pittsburg State University, USA
- Director Certification Program (DCP) Class 72/2006, Thai Institute of Directors
- The National Defence Course Class 55/2012, National Defence College
- Executive Program Capital Market Academy (CMA-18) (2014), Capital Market Academy
- Top Executive Program in Commerce and Trade (TEPCoT) Class 8 (2015), University of the Thai Chamber of Commerce
- Director Certification Program Update (DCPU) Class 3/2015, Thai Institute of Directors
- Chief Information Officer: CIO 26 (2015), Digital Government Development Agency
- The Executive Program in "Energy Literacy for a Sustainable Future" TEA Class 7 (2015), Thailand Energy Academy

Work Experience:

- Director, Ratchaburi Electricity Generating Company Limited
- Director of TOT Public Company Limited
- Director and Chairman of the Audit Committee, ASEAN Patash Mining Public Company Limited
- Director, Erawan Hotel Public Company Limited
- Director, Government Housing Bank
- Deputy Director, The State Enterprise Policy Office
- Director of Ratchaburi Electricity Generating Holding Public Company Limited

Present Positions:

- Director of Metropolitan Waterworks Authority (Until 30 September 2019)
- Director of TOT Public Company Limited (Until 30 September 2019)
- Advisor on Finance, Office of the Permanent Secretary, Ministry of Finance (Until 30 September 2019)

Holding the positions of directors/high-level executives in state enterprises/other juristic persons:

- Director of TOT Public Company Limited (Until 30 September 2019)

Securities holding (shareholding) in a juristic person related to core business:

Non

Juristic persons related to MWA directors:

Non

Mr. Prinya Yamasamit

Position: Director and MWA Governor

Age: 59

Education/Training:

- Bachelor of Engineering (Civil Engineering),
King Mongkut's Institute of Technology
- Master of Engineering (Sanitary Engineering),
Chulalongkorn University
- Certificate of Non-Revenue Water Management (Leakage Control),
Japan International Cooperation Agency (JICA)
- High Level Metropolitan Administrator Program (Class 9),
Bangkok Metropolitan Administration
- Senior Executive in Urban Development Administration Program
(Metropolitan Class 4), Navamindradhiraj University
- Leadership Succession Program (LSP) (Class 6), Institute of
Research and Development for Public Enterprises (IRDP)
- Corporate Governance for Directors and Senior Executives of
Regulator, State Enterprises and Public Organizations (Class 16),
King Prajadhipok's Institute in cooperation with State Enterprise
Policy Office and Office of the Public Sector Development
Commission
- Power of the Kingdom, Chulalongkorn University Executive Program
(Class 5), Chulalongkorn University

Work Experience:

- Assistant Governor (Construction)
- Deputy Governor (Engineering and Construction)
- Administrative Director of Metropolitan Waterworks Authority Club
(Administrative Vice Chairman)
- Director of Wastewater Management Authority

Present Positions:

- Director of Metropolitan Waterworks Authority
- Governor of Metropolitan Waterworks Authority
- Chairman of Thai Waterworks Association (TWWA)

Holding the positions of directors/high-level executives in state enterprises/other juristic persons:

Non

Securities holding (shareholding) in a juristic person related to core business:

Non

Juristic persons related to MWA directors:

Non

Definitions

- (1) **Holding the positions of directors/high-level executives in state enterprises/other juristic persons:** state enterprises/juristic persons where the MWA directors hold the positions of directors or high-level executives.
- (2) **Securities holding (shareholding) in a juristic person related to core business:** shareholding of MWA directors in a juristic person related to the core business of MWA in the percentage exceeding 10 percent of the total shares with voting rights.
- (3) **Juristic persons related to MWA directors:** a juristic person which has or is likely to have a transaction activity related to MWA where the spouse, minor child/adopted child of MWA directors has control over on one of the following cases: holding shares with voting rights exceeding 50 percent of all voting rights; or having controlling power in the majority of votes in shareholders meeting; or having controlling power in the appointment or removal of at least half of all directors

Remarks : MWA has no subsidiaries or associates

MWA

Executives

(As of 1 October 2019)



Mr. Prinya Yamasamit

MWA Governor

Education/Training:

- Bachelor of Engineering (Civil Engineering), King Mongkut's Institute of Technology
- Master of Engineering (Sanitary Engineering), Chulalongkorn University
- Certificate of Non-Revenue Water Management (Leakage Control), Japan International Cooperation Agency (JICA)
- High Level Metropolitan Administrator Program (Class 9), Bangkok Metropolitan Administration
- Senior Executive in Urban Development Administration Program (Metropolitan Class 4), Navamindradhiraj University
- Leadership Succession Program (LSP) (Class 6), Institute of Research and Development for Public Enterprises (IRDP)

- Corporate Governance for Directors and Senior Executives of Regulator, State Enterprises and Public Organizations (Class 16), King Prajadhipok's Institute in cooperation with State Enterprise Policy Office and Office of the Public Sector Development Commission
- Power of the Kingdom, Chulalongkorn University Executive Program (Class 5), Chulalongkorn University

Work Experience:

- Assistant Governor (Construction)
- Deputy Governor (Engineering and Construction)
- Administrative Director of Metropolitan Waterworks Authority Club (Administrative Vice Chairman)
- Director of Wastewater Management Authority



Mrs. Lawan Chatrunchewan
Deputy Governor
(Planning and Development)

Education/Training:

- Bachelor of Business Administration, Chiang Mai University
- Master of Business Administration (Management Science), Sukhothai Thammarath Open University
- Senior Executive Certificate in Anti-Corruption Strategic Management, Office of the National Anti-Corruption Commission (NACC)
- Advanced Certificate Course in Public Economics Management for Executives, King Prajadhipok's Institute

Work Experience:

- Assistant Governor (Office of MWA Board of Director)
- MWA Expert (Level 10)



Mr. Somboon Sunanthapongsak
Deputy Governor
(Eastern Services)

Education/Training:

- Bachelor of Engineering (Civil Engineering), Khon Kaen University
- Bachelor of Business Administration (Construction Management), Sukhothai Thammarath Open University
- Master of Business Administration, Chulalongkorn University
- Director Certification Program (Class 234), Thai Institute of Directors Association (IOD)
- Join Staff Course (Class 53), Joint War College

Work Experience:

- Deputy Governor (Western Services)
- Deputy Governor (Water Production and Transmission)



Mr. Kavee Areekul
Deputy Governor
(Engineering and Construction)

Education/Training:

- Bachelor of Engineering (Civil Engineering), Khon Kaen University
- Master of Business Administration (Business Administration), Kasetsart University
- National Defense College of Thailand (Class 58), National Defence College of Thailand
- Director Certification Program (Class 245), Thai Institute of Directors Association (IOD)

Work Experience:

- Deputy Governor (Eastern Services)
- Director of Wastewater Management Authority



Mr. Thamrong Buranatrakul
Deputy Governor
(Information Technology)

Education/Training:

- Bachelor of Engineering (Civil Engineering), Khon Kaen University
- Bachelor of Business Administration (Construction Management), Sukhothai Thammarath Open University
- Master of Engineering (Environmental Engineering), Chulalongkorn University
- The Civil Service Executive Development Program: Visionary and Moral Leadership, Civil Service Training Institute
- e-Government Executive Program: e-GEP, Thailand Digital Government Academy (TDGA)

Work Experience:

- Assistant Governor (Water Transmission and Distribution System)
- MWA Expert Level 10



Miss Chawewan Uthapibool
Deputy Governor
(Administration)

Education/Training:

- Bachelor of Political Science (Public Administration), Thammasat University
- Master of Arts (Public Administration), National Institute of Development Administration (NIDA)
- Naval War College Program (NWC 45), Naval War College
- The Civil Service Executive Development Program: Visionary and Moral Leadership, Office of the Civil Service Commission (OCSC)

Work Experience:

- Assistant Governor (Human Resource Management)
- Assistant Governor (Administration)

Mr. Raksak Suriyaharn
Deputy Governor
(Water Production and Transmission)

Education/Training:

- Bachelor of Engineering (Civil Engineering), Khon Kaen University
- Air War College Program, Air War College
- High Level Metropolitan Administrator Program, Bangkok Metropolitan Administration

Work Experience:

- Assistant Governor (Services 4)
- Deputy Governor (Western Services)

Mr. Prasopsuk Somprasongk
Deputy Governor
(Western Services)

Education/Training:

- Bachelor of Engineering (Civil Engineering), King Mongkut's University of Technology Thonburi
- Royal Thai Army College Program, Royal Thai Army College
- Advance Certificate Course in Public Administration and Law for Executives, King Prajadhipok's Institute

Work Experience:

- Assistant Governor (Services 1)
- Assistant Governor (Services 2)

Mrs. Nongluck Ratanaudomchok
Deputy Governor (Finance)

Education/Training:

- Bachelor of Accounting (Accounting), Thammasat University
- Staff Psychological Operation Course, Institute of Security Psychology, National Defence Studies Institute
- Financial and Fiscal Management Program for Senior Executive, The Comptroller General's Department (CGD)

Work Experience:

- MWA Expert Level 9
- Assistant Governor (Accounting and Finance)



Miss Sutisa Naksen
MWA Expert Level 10

Education/Training:

- Bachelor of Business Administration (Accounting), Ramkamhaeng University
- Master of Business Administration (Finance and Banking), Ramkamhaeng University
- Staff Psychological Operation Course, Institute of Security Psychology, National Defence Studies Institute
- Financial and Fiscal Management Program for Senior Executive, The Comptroller General's Department (CGD)

Work Experience:

- Assistant Governor (Waterworks Academic Development)
- Assistant Governor (Financial Policy)



Mr. Komkrit Dinakara Na Ayudhya
MWA Expert Level 10

Education/Training:

- Bachelor of Engineering (Civil Engineering), Kasetsart University
- Air War College Program, Air War College
- Leadership Succession Program, Institute of Research and Development for Public Enterprises

Work Experience:

- Assistant Governor (Engineering)
- Assistant Governor (Project Management Office)



Miss Busagon Procks-anocha
MWA Inspector (Level 10)

Education/Training:

- Bachelor of Science (Accounting), Kasetsart University
- Master of Accountancy (Accounting and Finance), Chulalongkorn University
- Master of Science (Information Technology), Eastern Asia University
- Successful Formulation & Execution of Strategy Course (SFE), Thai Institute of Directors Association (IOD)
- e-Government Executive Program: e-GEP, Thailand Digital Government Academy (TDGA)

Work Experience:

- MWA Expert Level 9
- Assistant Governor (Internal Audit Office)

Executives

Assistant Governor and Equivalents

(As of 1 October 2019)

Line of Governor:



Miss Suwara Thawitchasri

Assistant Governor

(Office of MWA Board of Directors)



Mrs. Umpaisri Thanthumwong

Assistant Governor

(Internal Audit Office)



Mrs. Nisapas Wongpat

Assistant Governor

(Waterworks Academic Development)



Mrs. Rachirach Uthayo

Assistant Governor

(Office of Governor)

Line of Deputy Governor (Administration):



Mr. Mongkol Kerkkittikul

Assistant Governor

(Administration)



Mrs. Apinya Rotchanahatsadin

Assistant Governor

(Human resource Management)



Miss Jinda Chantatamma

Assistant Governor

(Accounting and Finance)



Mrs. Wasana Nakpiphatkul

Assistant Governor

(Financial Policy)

Line of Deputy Governor (Finance):

Line of Deputy Governor (Eastern Services):



Mr. Marnus Changnoi

Assistant Governor

(Services 3)



Mrs. Pimjai Sapsompong

Assistant Governor

(Services 2)



Mr. Saharat Porkaew

Assistant Governor

(Services 1)

Line of Deputy Governor (Western Services):



**Mr. Veerachai
Wisepunthurungsi**
Assistant Governor
(Services 5)



Mr. Sukit Ekatikomkit
Assistant Governor
(Services 4)



Mr. Suthep Eapakorn
Assistant Governor
(Services)

Line of Deputy Governor (Engineering and Construction):



Mr. Banjong Vongsa
Assistant Governor
(Construction)



Mr. Pornsak Panyoi
Assistant Governor
(Engineering)



Mr. Manit Panaim
Assistant Governor
(Project Management Office)

Line of Deputy Governor (Water Production and Transmission):



Mr. Maitri Kaewsaengtham
Assistant Governor
(Water Transmission
and Distribution System)



Mr. Montri Longtee
Assistant Governor
(Water Production System)



Mr. Sathaporn Sunkumnurd
Assistant Governor
(Plant Maintenance)



Mr. Washirawit Powichit
Assistant Governor
(Water Resources and Quality)

**Line of Deputy Governor
(Planning and Development):**



Mr. Suthirug Buchagul
Assistant Governor
(Planning and Development)

**Line of Deputy Governor
(Information Technology):**



Mrs. Kanitta Pholcharoen
Assistant Governor
(Information Technology)

MWA Expert Level 9:



Miss Anchalee Musigatham
MWA Expert Level 9



Mr. Suntorn Thonggumnerd
MWA Expert Level 9



Mrs. Maytawee Suchartlumpom
MWA Expert Level 9



Mrs. Payom Srianan
MWA Expert Level 9



Mr. Adisak Pranverapaiboon
MWA Expert Level 9



Miss Sompit Nawapornchai
MWA Expert Level 9



Mr. Phairot Sonsap
MWA Expert Level 9



Miss Sunan Patipanvat
MWA Expert Level 9



Miss Kornvilai Yeawyasat
MWA Expert Level 9



Mr. Sinut Sinittarnon
MWA Inspector Level 9

Executives

Department Directors and Equivalents

(As of 1 October 2019)

Line of Governor:

Miss Prapai	Kampangkeaw	Audit Development and Support Department Director
Mr. Wira	Srisakunworathai	Supporting Process Audit Department Director
Miss Usa	Chaivanichpol	Human Resources Development Department Director
Mrs. Suchada	Nakyoy	Core Business Audit Department Director
Mrs. Wantanee	Chumpoo	Operation of MWA Department Director
Mrs. Sunisa	Piyasuwan	Waterworks Academic Development Department Director
Miss Nattaya	Bunkerd	Corporate Governance Department Director
Mrs. Nittaya	Pibul	MWA Board of Directors Affairs Department Director
Mrs. Sirijan	Santirojanakul	Social Responsibility Management Department Director
Mrs. Chavina	Wiratyosin	Corporate Communication Department Director

Line of Deputy Governor (Administration):

Miss Sumon	Tanteeratam	Procurement and Supplies Department Director
Mrs. Suwanna	Parkros	Central Administration Department Director
Mrs. Tatrapa	Kanjanasint	Legal Department Director
Mr. Sumet	Sinthuyon	Welfare and Relations Affairs Department Director
Mr. Narintorn	Mahanaka	Human Resources Management Department Director

Line of Deputy Governor (Finance):

Mrs. Pattharaporn	Pattharasikarin	Financial Analysis and Planning Department Director
Mrs. Sukontip	Ngarmwacha	Development and Enhancement Enterprise's Value Department Director
Miss Kanlaya	Wichachoocherd	Budget Department Director
Miss Pornthip	Onneam	Accounting Department Director
Miss Patcharin	Punyapornsup	Finance Department Director

Line of Deputy Governor (Eastern Services):

Mr. Kittipat	Uthikamporn	Phaya Thai Branch Office Manager
Mr. Archawan	Im-erbtham	Suvarnabhumi Branch Office Manager
Miss Amphai	Phanayuwattana	Min Buri Branch Office Manager
Mr. Sarawut	Boonwong	Phra Khanong Branch Office Manager
Mrs. Duangjit	Suvanphatep	Lat Phrao Branch Office Manager
Miss Duangkamol	Rienpuech	Bang Khen Branch Office Manager
Mr. Luanchai	Kanjanasint	Sukhumvit Branch Office Manager
Mr. Chaiyaporn	Rattanatanangpong	Samut Prakan Branch Office Manager
Miss Phakamas	Choakanantrakul	Thung Mahamek Branch Office Manager
Miss Jitaree	Mungkun	Prachachuen Branch Office Manager
Mr. Pratan	Leardcharoenroek	Mansri Branch Office Manager

Line of Deputy Governor (Western Services):

Mr. Wison	Midtrapanon	Water Meter Department Director
Mr. Supichete	Tavorntaveevong	Water Loss Management Department Director
Mr. Piyapong	Srisomboon	Bangkok Noi Branch Office Manager
Mr. Phichet	Wongphitak	Mahasawat Branch Office Manager
Miss Panicha	Wetchosodsakda	Nonthaburi Branch Office Manager
Mr. Nurach	Noisopa	Taksin Branch Office Manager
Mr. Pornchai	Mongkolkruit	Suksawat Branch Office Manager
Mr. Wimarn	Marsjaroon	Phasi Charoen Branch Office Manager
Mrs. Sasithorn	Meekunieam	Service Support Department Director
Mr. Sukit	Musikkaphan	Bang Bua Thong Branch Office Manager

Line of Deputy Governor (Engineering and Construction):

Miss Widchuda	Liamsanguan	Project Management Department Director
Mr. Sayan	Namngern	Water Treatment, Transmission System and Civil Work Construction Department Director
Mr. Chana	Pongpothakul	Water Distribution System Design Department Director
Mrs. Thimaporn	Wimonanupong	Engineering Standard and Geographic Information Department Director
Mr. Sutthisak	Lapprasert	Waterworks Improvement Project Department Director
Mr. Dollachet	Klahan	Water Treatment, Transmission System and Civil Work Design Department Director
Mr. Arnuparp	Supapant	Water Distribution System Construction Department 1 Director
Mr. Viwat	Kuharat	Water Distribution System Construction Department 2 Director

Line of Deputy Governor (Water Production and Transmission):

Mr. Sermsak	Jansam	Water Transmission and Distribution Control Department Director
Mr. Thaveesak	Ngarmwacha	Water Transmission and Distribution System Treatment Planning and Development Department Director
Mr. Pornsak	Samornkraisorakit	Mahasawat and Thon Buri Water Treatment Plant Department Director
Mr. Thanapong	Kausangunsilp	Mechanical System and Civil Maintenance Department Director
Mr. Amnat	Pakros	Electrical System Maintenance Department Director
Mr. Somsak	Passananon	Water Resources and Environment Department Director
Mr. Tintapas	Kongkhanoy	Bang khen Water Treatment Plant Department Director
Mr. Sunai	Tanpanich	Samsen Water Treatment Plant Department Director
Mr. Yongyut	Srimode	Instrument and Automation System Maintenance Department Director
Miss Nongnara	Atanavanich	Water Quality Department Director
Mr. Pummate	Chaitragul	Water Distribution Pumping Station Department Director
Mr. Vittaya	Kongkeatvanit	Raw Water Transmission System Department Director

Line of Deputy Governor (Planning and Development):

Miss Yutirat	Khampheeraphan	Business Development Department Director
Miss Suwaree	Chiawchanlikit	Monitoring and Evaluation Department Director
Miss Orawan	Suraiman	Risk Management Department Director
Mr. Chiranuwat	Narong	Policy and Strategy Department Director

Line of Deputy Governor (Information Technology):

Mrs. Pitsawart	Phapsuan	Technology Development and Support Department Director
Mrs. Nongnuch	Wongkalasin	Information Technology Strategy Department Director
Mr. Paripan	Pinsurong	Technology and Communication Department Director

MWA Expert Level 8

Miss Kanyarach	Nantanawikul	MWA Expert Level 8
Mrs. Suntaree	Akepanidaworn	MWA Expert Level 8
Mrs. Boonbundal	Boonchuwit	MWA Expert Level 8
Mrs. Leewan	Tankrittiwat	MWA Expert Level 8
Mrs. Kanya	Sonsap	MWA Expert Level 8
Mr. Prawit	Sangsukcharoen	MWA Expert Level 8
Mr. Wisut	Teerapong	MWA Expert Level 8
Mr. Sanchai	Pongputtchart	MWA Expert Level 8
Mrs. Pornwarin	Poonsup	MWA Expert Level 8
Miss Wimonsri	Klancharoen	MWA Expert Level 8
Mr. Phaisarn	Ngernkorn	MWA Expert Level 8
Mr. Wichai	Sangpornsiaroon	MWA Expert Level 8
Acting Pol.Sub-Lt. Aree	Chumchuchan	MWA Expert Level 8
Miss Achara	Poramathikul	MWA Expert Level 8
Mr. Khajohnwatch	Suwanlaaid	MWA Expert Level 8
Miss Roskon	Dankul	MWA Expert Level 8
Miss Nuchnapa	Wongmongkhon	MWA Expert Level 8
Mrs. Saijai	Jittieng	MWA Expert Level 8
Mrs. Duaenchai	Sinthuyon	MWA Expert Level 8
Mrs. Lakkana	Chuenkul	Auditor Level 8
Mr. Pisarn	Thudee	MWA Expert Level 8
Mrs. Petiporn	Chantawong	MWA Expert Level 8
Mr. Winyu	Roongadulpisan	MWA Expert Level 8

Executive during the Year 2019 (Retired on 1 October 2019)

Mrs. Obhoon	Sawetavong	Deputy Governor (Finance)
Mr. Kittipong	Apichaichankit	Deputy Governor (Information Technology)
Miss Supanee	Karunkittikun	Deputy Governor (Eastern Services)
Mr. Chaiwat	Vorapeboonpong	MWA Expert Level 10
Mrs. Sranya	Sinamphet	MWA Expert Level 10
Miss Tassanee	Leksantivong	MWA Expert Level 10



Metropolitan Waterworks Authority ...
The Present and the Future



Future Industrial Situation and Prospects

In 2019, the global economy suffered from economic fluctuations. The United States-China trade war significantly affected the growth of the world economy. Additionally, the contraction of the manufacturing sector and the political stability in many countries caused uncertainty in marketing policies and world economy resulting in continuous decrease in exporting and investing values as well as confidence in business sector. The International Monetary Fund (IMF) estimated that the global gross domestic product (GDP) would be by 2.9 percent expansion in 2019. Also, IMF forecast that the global GDP will grow by 3.3 percent expansion in 2020. Nonetheless, IMF forecast that the world economy will soon improve since the risks from the United States-China trade war and the problem regarding the withdrawal of the United Kingdom (UK) from the European Union (EU) are about to end. Regarding the impact of the coronavirus (COVID-19), it depends on how soon the situation could be controlled. The sooner the situation is under control, the quicker the global economy might recover. During this time, China announced the reduction of interest rates to help support businesses that suffered from the situation.

As for Thailand, Office of the National Economic and Social Development Council estimated that the national GDP would grow by 2.4 percent expansion in 2019, while the Bank of Thailand forecast that in 2020, the national GDP might expand less than 2.0 percent because of the coronavirus (COVID-19) pandemic, drought and the delay in passing the national budget. However, there are several positive factors contributing to the growth of the national GDP, including world economic and trade recovery following the relaxation of trade protectionism and the withdrawal of the United Kingdom (UK) from the European Union (EU). The expansion of household expenses, private investment and public investment are still high. Additionally, clearer policies regarding Eastern Economic Corridor (EEC) and the support from Public Private Partnership (PPP) investment review still contribute to drive the national economy, especially in the industrial sector and future investment.

Table: National GDP expansion rates in manufacturing sector

Unit: Percent

Products	2018	2019
Agricultural sector	5.5	0.1
- Agriculture, forestry and fishing	5.5	0.1
Non-agricultural sectors	4.0	2.6
- Industrial sector	2.7	0.0
- Service sector	4.8	4.0

(Source: Office of the National Economic and Social Development Council)

According to the table showing the national GDP expansion rates in manufacturing sector, it can be seen that in 2019, the expansion rates of the national GDP in manufacturing sector of non-agricultural industrial sector grew by 2.6 percent expansion, compared to the expansion in 2018. The rate is in accordance with the amount of water supplies MWA sold in 2018. The amount of water sold in 2019 increased by 4.21 percent from the year 2018. Regarding the industrial prospect in 2020, the Office of Industrial Economics forecast that the expansion rate of manufacturing production index (MPI) will grow by 2.0 - 3.0 percent expansion resulting from positive factors from the government's stimulus policies and the performance according to EEC framework.

MWA forecast that in 2020, the overall demand of water supplies tends to increase because of the urbanization and the expansion of industrial sector, the public investment on transportation infrastructure. However, risk factors include drought, the slowdown of tourism sector because of the coronavirus (COVID-19) pandemic. Accordingly, the acceleration of the project investment to improve the waterworks infrastructure deems utmost important to respond to any potential risks that might happen in the future and support the expansion of residential areas, business sector and industrial sector in the future. MWA aims to boost the waterworks service to meet the global standard and to ensure the well-being of Thai people along with the sustainable development of the national economy.

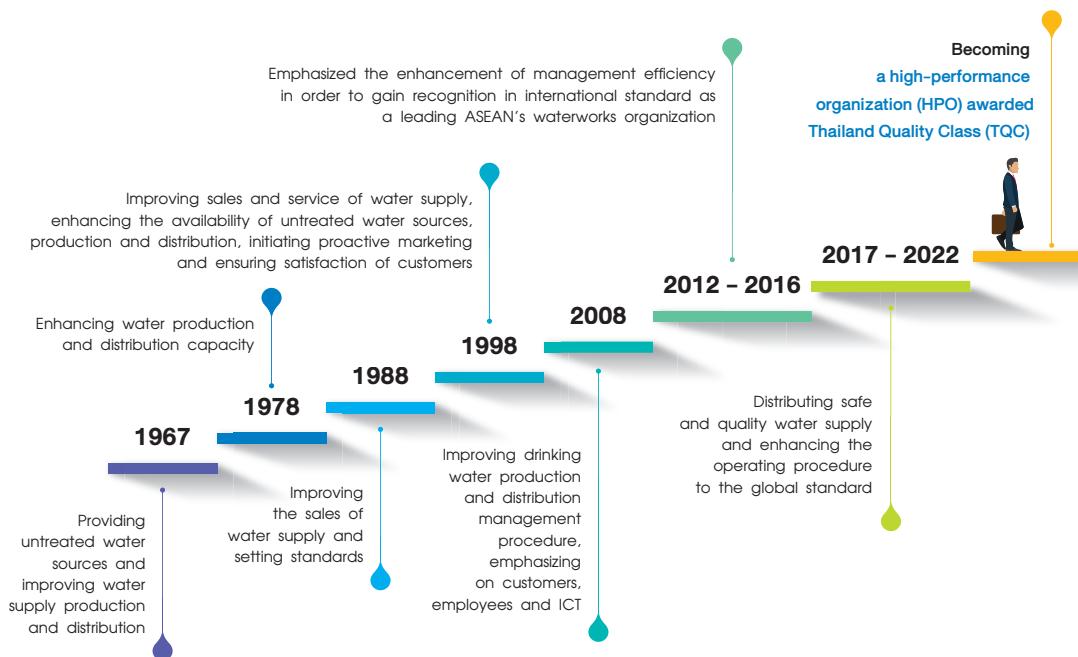
Major Plans and Projects

Project	Project Period	Project Cost (Million Baht)	Implementation Results to Fiscal year 2019 (Percent)
1. The Seventh Bangkok Water Supply Improvement Project Expansion of the production capacity of Bangkhen and Mahasawat Water Treatment Plants for another 400,000 cubic meters per day each; construction of Bang Phli and Min Buri Pumping Stations; construction of transmission tunnels; and 1,000 Km. of distribution pipelines.	1999 - 2020	25,177.3	95.11
2. The Elghth Bangkok Water Supply Improvement Project Expansion of the production capacity of Bangkhen and Mahasawat Water Treatment Plants for another 400,000 cubic meters per day each; construction of reservoirs at Ratburana and Petchkasem Distribution Pumping Stations; procurement and installation of raw water pumps, transmission pumps and distribution pumps; construction of pipelines and other related operations.	2008 - 2020	7,494.0	85.88
3. The Ninth Bangkok Water Supply Improvement Project Expansion of production capacity of Mahasawat Water Treatment Plants for another 800,000 cubic meters per day; enhancing efficiency of the distribution system by constructing transmission tunnels and Bangmod Water Distribution Pumping Station as well as expanding clear water reservoirs; construction of pipelines and other related operations.	2017 - 2024	42,750.0	1.52
4. Enhancement of Water Pumps Performance for Trunk Main System Construction and improvement of the new pipelines in all 18 MWA Branch Offices	2016 - 2022	4,300.0	13.84
5. Pipeline System Improvement Project for Water Distribution Stability Water Distribution pipeline improvement to reduce water loss and increase MWA overall pipeline network efficiency.	2012 - 2021	2,042.4	37.92
6. The untreated water distribution system improvement project to strengthen the system stability and to permanently prevent flood. Improvement of the distribution system of the untreated water from the east coast which is the untreated water source for Bangkhen Water Treatment Plant, Samsen Water Treatment Plant and Thonburi Water Treatment Plant. The improvement will be done between Bangkhen Water Treatment Plant and Samlae Water Pump Station to enhance the distribution capacity and to permanently prevent flooding problem along the canal line.	2013 - 2022	1,939.0	12.35

Roadmap for the 5th MWA State Enterprise Plan

In the fiscal year 2019, MWA decided to change the name of the organization's strategic plan to "the 5th MWA State Enterprise Plan (2020 - 2022)" to be in accordance with the Act on the Development of the Supervision and Administration of state enterprises, B.E. 2562 (Article 25). The plan adjusts the termination of the plan to comply with the termination of the

National Economic and Social Plan which is extended to the year 2022. In addition, the plan adopts the index of the National Strategic Plan model scheme whose first phase target value is expired in 2022 as guidelines for the administration of the organization in the first three years with the important conceptual framework of the sustainable development by improving and developing the capacity of the organization to become a high performance organization that contributes to the eco-friendly economic and social development to be in accordance with the direction of the national administration and lead the country to become stable, wealthy and sustainable.



MWA has aimed to become a high-performance organization (HPO) by adhering to the good corporate governance guidelines and showing responsibility to the society. The organization has integrated the use of different information communication technology as well as modern technology thoroughly to be able to equally respond to the needs of different stakeholders. MWA has set a goal to achieve the Thailand Quality Class (TQC) award for good corporate governance with the score of more than 90 for ethics and transparency. In addition, MWA has thrived to distribute the water supplies to people under the Water Safety Plan (WSP) and aimed to reduce the water loss rate to 19 percent by investing in the waterworks system repairment and security, including a large-scale investment to improve the stability of the waterworks system and to support future demand of the water supplies. Furthermore, the organization has always maintained its financial security to ensure that MWA will be able to financially manage and provide sufficient liquidity for investment although the organization has charged the water utility with the same flat rate for the past 20 years.

Vision		KPIs	2019 target value Review result
Organization with high performance	HPO Standard	Thailand Quality Class Award (TQC)	The score of more than 350 (within year 2021)
Organization with global standard water supplies-related services	Water Quality	Water quality at the place of consumption: In normal circumstances Turbidity	≤ 1.0 NTU At the percentile of 95
	Water Distribution	Non-revenue water rate	19 percent
Organization with good corporate governance	Corporate Governance	Integrity and Transparency Assessment : ITA scores	The score of more than 90 or one of the top five state enterprises

Future Plans and Policies

The 5th MWA State Enterprise plan (2020 - 2022) consists of four aspects as follows:

1st aspect: Water Stability

Strategic objective: to improve water distribution system and manage non-revenue water, as well as to develop information technology to help reduce non-revenue water and manage water pressure.

Strategic objective: to enhance the production system (production-pump) to become stabilized and eco-friendly.

Strategic objective: to manage the quantity and quality of water in the entire system (upstream - downstream).

2nd aspect: Adaptive Organization

Strategic objective: to develop digital technology and systematically adopt innovations to boost the organization performance to be ready to respond to the expectation of stakeholders.

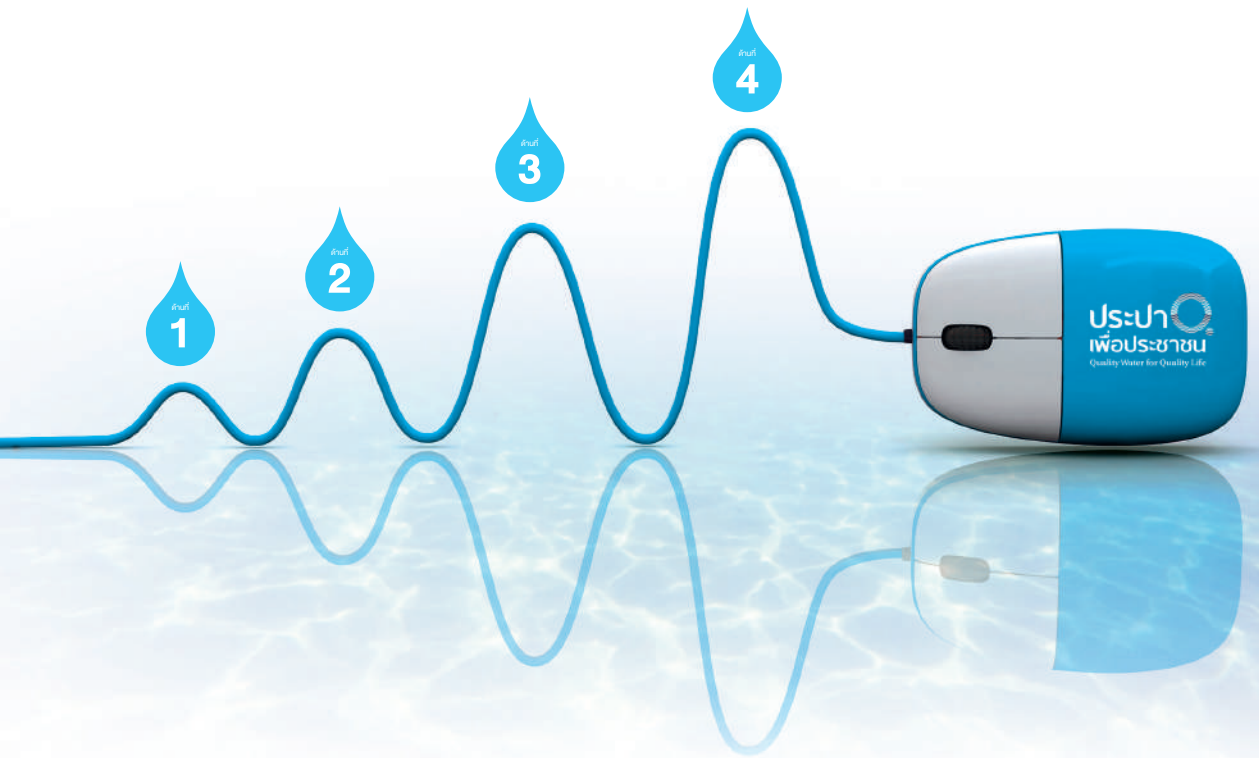
Strategic objective: to restructure the organization to promptly respond to any changes related to business and to enhance operational efficiency in every working procedure.

Strategic objective: to ensure the ability of the personnel. They must be equipped with multiple skills to support any potential changes and catch up with Thailand 4.0 policy and determine to perform the duty willingly.

3rd aspect: Sustainable Partnership

Strategic objective: to develop cordial relationship and cooperation with stakeholders under the principles of good corporate governance.

Strategic objective: to promote social and eco-friendly activities.



4th aspect: High Financial Performance

Strategic objective: to improve financial security of the organization.

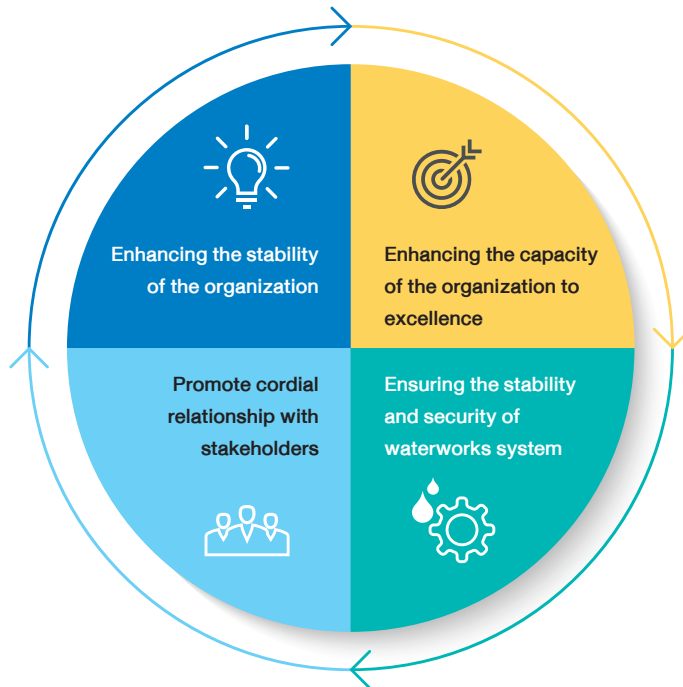
Major projects:

- Water distribution pipe upgrade for non-revenue water (NRW) reduction project
- Water pressure management project
- The Ninth Bangkok Water Supply Improvement Project
- Urgent infrastructure improvement project
- Service expansion to ensure thoroughness, sufficiency and security of water supplies project
- Water Safety Plans project
- Digital service development project
- Data driven organization project
- Organizational restructure to become a high-performance organization project
- Service excellent enhancement project
- Stakeholder satisfaction promotion project
- CSR in process and major community engagement project
- Corporate governance promotion for stakeholders project



Performance Results

2019 Performance Reports According to the 4th MWA Management Strategies (2019 – 2021) (1st Revised Version)



1st strategy: Enhancing the stability of the organization

Improving MWA financial stability by boosting the income and reducing the expense from the performance, as well as developing and creating income from associated businesses. Enhancing the asset management capacity to create values. Adopting material tracking management system to boost the capacity of the system for faster and more accurate performance.

Water distribution area expansion in the potential proximal areas project

The Metropolitan Waterworks Authority (MWA) could increase the amount of water supplies distributed to the Provincial Waterworks Authority by 58,000 cubic meters a day resulting in the increase in the income of MWA by approximately 302 million baht/year. The project also helps improve the quality of life of people in the proximal areas and enhance the good image of the country in terms of sufficient public utility.

Asset management capacity enhancement to create value project

MWA asset has been effectively managed. Positions of material storage and the inventories can be immediately checked. The adoption of innovations was initiated to produce and implement them in the real working process. The adopted innovations are a tool to facilitate the maintenance of water meter (ADD SPACE) and a pipe plug (Maha-ut)

2nd strategy: Enhancing the capacity of the organization to excellence

To enhance MWA to become an organization responsive to an ever-changing society and to promote the organization as a high-performance organization. MWA initiated training programs for personnel to ensure the effective performance according to the strategy. MWA focuses on improving digital skills of its employees to support the transition to Thailand 4.0 by turning MWA into the data driven organization with the integration of information communication technology system and big data system.

Restructuring MWA to a high-performance organization project

Planning to improve every aspect of the organization based on the context of the organization. MWA cooperated with Thailand Innovative Administration Consultancy Institute (TIA) in revising the structure of the MWA management chart and workforce to support any potential changes in the future focusing on technological and innovative development.

Skill development project to ensure effective performance according to the strategy

MWA has set a guideline for employee skill development and enhancement to cover every level of workforce. The skill development was divided into 5 parts: (1) knowledge needed for working in the context of Thailand 4.0 (2) Non-revenue water management (3) lessons on e-learning system (4) water safety plan and (5) digital literacy.

Big data analysis system development project

MWA initiated a clear delegation of responsibilities regarding data analysis. The organization also carried out on-the-job training to develop its employees' data analysis skill.

Digital service development project

MWA has created service innovation to facilitate service providing and ensure satisfaction of the customers.

R&D and innovations for organizational development project

Introducing a model scheme for research, development and innovations (2017 - 2021) to navigate performances of the organization. By means of the master plan, innovation management procedures can be identified to ensure a clear and systematic process to support the creation of innovations.

3rd strategy: Ensuring the stability and security of waterworks system

To ensure the stability, security and sufficiency of the MWA performance from the water sources to the river mouth to provide services to consumers and every group of stakeholders, untreated water management and the cooperation with the Royal Irrigation Department to ensure the sufficiency of water supplies.

Distribution pipes improvement project

To assertively support water supplies and water pressure management, as well as to support the reduction of water loss, in 2019, the distribution pipes MWA used to serve people in the service area is 38,440 kilometers long in total. In order to preserve water and reduce water loss, some distribution pipes had to be replaced. MWA had signed a pipeline replacement contract covering the distance of 1,001.45 kilometers. Now, the new water distribution pipes have been installed for 796.408 kilometers.

Technology adoption for non-revenue management project

Identifying leakages using hydraulic model and examining the distribution pipe system using satellite images to identify the areas where leakages might occur.

Water Safety Plans project

Focusing on contamination monitoring process, MWA has strictly checked quality of the water from untreated water sources to the water supplies production process

Effective untreated water distribution management system project

MWA has cooperated with the Royal Irrigation Department to ensure the sufficient supply of untreated water to sustainably produce water. The organization received 890 million cubic meters of untreated water from the eastern coast and 320 million cubic meters from the western coast. The untreated water was delivered to different treatment plants to effectively produce water supplies.

4th strategy: Promote cordial relationship with stakeholders

According to a vision of MWA to be an organization with good corporate governance, MWA has instilled confidence in people that the organization had always performed its job with honest and accountability while explicitly preventing and fighting against any forms of corruptions. Additionally, MWA has expanded its service areas by constructing and laying distribution pipeline to the areas inaccessible to water supplies to respond to the need of Thai people.

Service excellence enhancement project

According to complaints from different groups of customers submitted to MWA office in 2018, information from customer satisfaction survey and customer opinion survey for service management, the information was used to improve and develop the quality of MWA service in 2019. The result suggested that the customer satisfaction rate toward the overall service of MWA has continuously increased with the result indicating that 90.63 percent of people have confidence in the quality of water supplied by the organization.

Water service expansion project

MWA has cooperated with local administration organization in laying water distribution pipeline covering 116.93 kilometers. In addition, MWA has independently worked on laying water pipeline covering 6.941 kilometers.



Organization Management

Risk Management

Since uncertainty cannot be avoided in running a business, risk management is crucially important in creating confidence in achieving goals and objectives set by the organization. MWA has been aware of the importance of risk management and follow the global principles of COSO-ERM and the principles for risk management and internal control, B.E. 2555 by State Enterprise Policy Office (SEPO), Ministry of Finance. MWA has applied risk management policy to every level of organization. The policy has been transferred from risk management subcommittee to employees on operational level. Firstly, potential risks, either from internal or external factors, were identified. Then, risk management plan was systematically developed. The management was constantly monitored to reduce the potential impact of the risk to acceptable level and to ensure prompt response to any risks. Lastly, MWA has pushed risk management to become its organization culture.

In 2019, MWA implemented risk management as follows:

The stability of the production system

To ensure that MWA would continuously deliver its services to people and stakeholders and to enhance the production of water supplies on the East and West coasts, MWA had its four plants upgraded to support the production system that allows two types of chemical coagulants.

The stability of pumping and distribution system

In response to a goal according to the 4th MWA strategic management plan (2017 - 2021) regarding non-revenue water reduction, MWA planned to examine leak locations, monitor and prevent a leakage from the main pipe by adopting the examination method of leak locations on the main pipe from the best practice principles of the year 2018 to effectively identify and confirm leak locations on the main pipe.

Finance

To ensure that the management of capital budgeting according to the plan, MWA managed the risk by speeding up the capital budgeting process by having the responsible department prepare for the procurement process in advance: preparing a procurement plan, revising the reasons for capital budgeting to be in accordance with actual performance, improving the procurement process, determining the reference price, making an appropriate TOR, educating the associated departments about Public Procurement and Supplies Management Act, B.E. 2560 (2017) and seeking for contractors with expertise and experience to ensure that planned projects would successfully achieve their goals and to support the overall national economy.

Information communication technology (ICT)

To ensure the continuity of ICT-related performance, even in emergency situations, MWA revised and improved the organization's business continuity plan (BCP) regarding information technology. MWA has continuously practiced an emergency drill to be in accordance with ISO 27001:2013 standard. The organization has also rehearsed the action plan when the IT server is down or in other emergency situations. Accordingly, MWA's employees are skillful and can accurately perform according to the plan and ready to ensure the business continuity of the organization. In addition, MWA eliminated the IT-related loopholes by issuing a protection policy against network intrusion or an attack with mal-intent, which is a vital issue currently receiving a lot of attention of media around the world, to ensure the safety and availability of MWA's IT system in any circumstances.

Non-revenue water (NRW) reduction capacity improvement

To provide sufficient water supply availability to consumer demands, MWA determined to provide sufficient water supplies for consumption to every household within our service areas. Realizing the significance of maximizing the benefits from water supplies, MWA managed a risk of NRW reduction capacity improvement by managing its organizational agenda-based structure and adopting technological methods such as satellite system and hydraulic model to help in examining and identifying process of leak locations to become faster and more accurate.



Internal Control

To ensure that the performance of MWA is in accordance with the 4th MWA strategic management plan (2017 - 2021), which is a guideline that leads the performance of MWA to achieve the vision "to be a high performance water supply organization with excellent corporate governance and reach international standard." Accordingly, MWA prioritizes the internal control system making sure that the organization is provided with appropriate and adequate internal control system. The organization also provides essential activities and workshops to improve employees' knowledge and understanding about internal control to develop an effective internal control system that is in accordance with Ministry of Finance's regulations on standard and regulations regarding internal control for public organizations, B.E. 2561 (2018). The regulations are in accordance with the global standard of the Committee of Sponsoring Organizations of the Treadway Commission (COSO), 2013. The regulations consist of 5 components and 17 principles as follows:

1st Component: Control Environment – 5 principles

- Revise/amend the MWA announcement about MWA internal control policies and the MWA order about guidelines on internal control to comply with Ministry of Finance's regulations on standard and regulations regarding the internal control for public organizations, B.E. 2561 (2018).

2nd Component: Risk Assessment – 4 principles

- Attend workshops with departments and independent working units to give advice on Control Self Assessment (CSA).

3rd Component: Control Activities – 3 principles

- Initiate a training program on Control Self Assessment (CSA) for heads of divisions or higher to improve their knowledge and understanding about Ministry of Finance's regulations on standard and regulations regarding internal control for public organizations, B.E. 2561 (2018).

4th Component: Information and Communication – 3 principles

- Revise forms and reports on internal control assessment in the integrated information system, internal control system, risk management, as well as Governance Risk and Compliance (GRC) to be in accordance with Ministry of Finance's regulations on standard and regulations regarding internal control for public organizations, B.E. 2561 (2018).
- Initiate activities or projects to provide all employees knowledge and understanding about risk management and internal control to propagate and foster the principles of internal control as part of MWA's organization culture. The activities and projects included roadshows, quiz activities, and dissemination of knowledge through radio broadcasts.

5th Components: Monitoring Activities – 2 principles

- Monitor the performance of departmental work units and divisional work units that does not work under a department that underwent a revision to ensure that the activities were done by the end of the fiscal year 2019. There were 7 activities and projects in total.

According to the performance regarding the organization's internal control in 2019 mentioned above, MWA's internal audit office prioritized the audit rating and it was found that the overall audit rating is in a good level. Overall, MWA's working units provided sufficient internal control system. The employees performed in conformity with the control system. Additionally, there was no issue involving high risk found during the inspection.

As for the fiscal year 2020, MWA aims to equip every work process of the organization with an appropriate and sufficient internal control system in accordance with Enablers assessment criteria for state enterprise performance that will be implemented by State Enterprise Policy Office (SEPO) from 2020 onward. Additionally, the system will help improve the internal control process to become more effective and lead the organization to achieve the visions according to the organization's performance strategies.



Internal Audit

The internal audit office carried out its inspection independently with integrity according to the global standards of principles for professional internal audit and guidelines for internal audit for state enterprises, revised version, B.E. 2555 (2012) to establish assurance services and provide consulting services related to corporate governance, risk management and appropriate internal control system. Also, the audit agency will provide constructive advice and comments to ensure the efficiency of the organization performance. The internal audit office adheres to the policy to become “a trusted advisor” for the business and follows the charter for the performance of audit agency in which missions, scope, power and responsibilities, as well as the audit procedure are clearly provided. The charter is revised annually.

Internal Audit Practice and Reporting

The long-term audit practice (fiscal years 2017 - 2021) and the annual audit inspection of the year 2019 by the internal audit office has been performed by means of risk-based audit method. The Audit Universe (AU) covers every aspect of MWA’s works. The internal audit office

has adopted data analytics and CAATS techniques in its practice to enhance the effectiveness of the performance in accordance with the Digital MWA policy. In 2019, the internal audit office successfully carried out the procedure according to plan and submitted the audit report to the inspection unit to use for improvement. The audit agency has constantly monitored the improvement of the organization's performance as being advised and quarterly reports the results to the MWA Governor, MWA Audit Committee and MWA Board of Directors.

Value Creation

The internal audit office has pushed the guidelines on risk management responsibilities and good control according to three lines of defense by presenting in the MWA executives meeting (policy level) to help the executives understand their role in the organization and apply the guidelines in their work. The agency prefers the method of integrated audit since it covers every major performance aspect of the organization. Additionally, the agency provides consulting service for the organization's executives and the inspection unit to create value and improve the performance of the organization. The agency also participated in the state enterprise support projects regarding organization management (mentor projects) to maintain cordial relationship between the two organization and to strengthen the power of state enterprise in pushing the national economic and social development.

Maintenance of the Quality of Internal Audit

The manual for internal audit must be revised annually to be in accordance with the current context of the organization for the auditors to use as their guidelines to ensure the accuracy and consistence of their performance. The quality of internal audit will be reviewed by senior auditors. Additionally, the quality will also be inspected via satisfaction assessment by the inspection unit after the completion of the audit process and self-assessment by the auditors themselves. Also, every five years, the quality will be assessed by external experts who have no association with the organization. The results over the period of five years will be analyzed to improve the effectiveness of the assessment. Appropriate training courses are provided to enhance skills and performance of the auditors. Also, the auditors are encouraged to develop themselves and acquire a vocational certificate for internal audit or other associated fields.

The auditor's consideration: State Audit office of the Kingdom of Thailand is MWA's internal auditor for the fiscal year 2019. The consideration for the internal audit was 2.50 million baht.



MWA's Corporate Social Responsibility (CSR) and Environmental Care

The Metropolitan Waterworks Authority (MWA) has always been conscious of its responsibility toward society and environment. MWA adopts the CSR standard of ISO 26000 developed by international organizations for standardization as the organization's CSR performance guidelines. The standard of ISO 26000 is set as MWA CSR policy to make the organization's work process clearer and to help MWA perform its mission even more effectively by producing clean water with the global standard and distributing sufficient water supplies to every household within the service areas to bring about the highest satisfaction among people within the service areas. In addition, MWA also maintains the cordial relationship with the organization's stakeholders to create harmony between community and society.

MWA has always been aware that while carrying out its main missions, the organization needs to express its consideration toward CSR and environment. Regarding CSR and environmental concern, the following policies are introduced to ensure the efficiency and effectiveness of MWA.

1. Aiming to develop water supply services as stated in the organization's main missions. Adhering to the principles of good corporate governance. Working with integrity, transparency and accountability. Adhering to the law. Treating labors equally and thinking of human rights in accessibility to water supplies which is a fundamental service. Being responsible to consumers, communities and environment and thinking of the organization's stakeholders.

2. Fostering and raising awareness of CSR and environment in every level of employees while performing their jobs to make it become part of the organization culture. Improving employees' well-being and taking care of their living. Promoting good working atmosphere and environment which will help employees enjoy working along with enhancing their skills and performance to respond to the working objective of the organization.

3. Supporting CSR-in process performance by considering ways to prevent potential impacts of MWA's work on society and environment and adopting ISO 26000 standard as guidelines for appropriate working performance.

4. Promoting sustainable development of the organization by making reports on its performance concerning CSR and environmental care covering contents in economic, social and environmental dimensions following global reporting initiative (GRI) framework for sustainability to enhance performance capability and reliability of the report in accordance with the global standard.

Additionally, MWA emphasizes on CSR in process in every aspect of performance of the organization from the process of providing untreated water supplies, production and distribution of water supplies to the process of providing services to our customers to create the sustainability in the organization and society. Reporting the organization's sustainable development by revealing results of the performance regarding social responsibility whose information covers three dimensions, that are economy, society and environment reflecting impacts, either positive or negative, of the organization's performance on stakeholders. Identifying main materiality in 2019 that affected the sustainability of the organization following global reporting initiative (GRI) format and structure to integrate sustainability as part of the organization's strategies.

Regarding MWA's CSR after process activities or activities initiated for people in society, there were a few remarkable activities including:

1. MWA Plumber for People Project aims to transfer knowledge, which is the organization's core capacity and expertise, about plumbing system maintenance and techniques of fixing pipes and other parts of plumbing system to general people of all genders and education levels. In this project, the organization also provides mechanic jumpsuit and basic plumbing tool kit to the participants free of charge. The training project provided both theoretical and practical lessons. After the completion of the project, the organization initiated "CSR Plumber for People." This activity allowed previous participants to apply their knowledge in real-life situations by volunteering in repairing or maintaining plumbing system in different places, such as temples, schools, community and public areas to improve their skills and learn to spontaneously respond to immediate problems with MWA staff as their mentors. Knowledge, skills and experience from the activity the participants had gained would give them an opportunity to have a secondary career. The skills received from the activity can also help reduce household expenses for basic plumbing maintenance. Additionally, the activity did not only help the participants to become self-reliable, but also allowed them to help people in the community. More importantly, the activity partially helped decrease the amount of water loss from pipe leakage. In 2019, MWA organized two basic plumbing courses and one advanced plumbing course with 86 participants in total. Since the project was first launched (March 2014 - September 2019), MWA has already organized 40 training courses (34 basic courses and 6 advanced courses) with 1,299 participants in total from across the country. Additionally, MWA also organized this activity for 36 times in 46 locations. Apart from knowledge and opportunity given to people, the thing that makes MWA most proud of is how the participants can make use of the knowledge in real life. For example, a participant came up with an innovation to facilitate plumbing works. He submitted the work to a contest and won a prize. Some of the participants have developed themselves and become plumbing trainers distributing knowledge and skills to others. Additionally, the activity helps raise an awareness of value and preservation of water resources (This project won the 2015 Best State Enterprise Award for the Best CSR performance from State Enterprise Policy Office (SEPO), Ministry of Finance).

2. MWA Plumbing System for School Project was initiated in response to royal remarks of the late King Rama IX by adopting the model for school development by means of the development of school plumbing system organized by MWA as part of MWA preservation of watershed forest in honor of His Majesty King Bhumibol Adulyadej at Rinluang district in Chiangmai (one of the water resources for untreated water to produce water supplies in the East) between 2012 - 2016. MWA applied the same model to schools in other important watershed areas that provide untreated water resource for MWA water supplies production,

that are Mae Klong watershed and Chao Phraya watershed. The organization offered a budget to install plumbing system for schools inaccessible to clean water for consumption starting from 2016 until present. In 2019, MWA supported four schools: 1. Sathaphon Wittaya School, Lam Phaya subdistrict, Banglen district, Nakhon Pathom 2. Wat Bualuang School, Chiang Rak Yai subdistrict, Samkhok district, Pathum Thani 3. Ban Sa Setthee School, Banmai subdistrict, Thamuang district, Kanchanaburi and 4. Ban Huai Rang Ket, Thung Looknok subdistrict, Kamphangsaeen district, Nakhon Pathom. Thus, there are 25 schools in total that MWA offered the budget to install a school plumbing system since the project was first launched in 2016. Additionally, the organization helped set up the plumbing team for each school for them to manage the system in the future. The organization also emphasized the value of water supplies with students and local people to promote the preservation of water resources as well as other natural resources for sustainability. MWA has built a water preservation network with public and private organizations in local areas and civil society organizations to raise their consciousness in social service and water preservation (this project won the 2017 Best State Enterprise Award for the Best CSR performance from State Enterprise Policy Office (SEPO), Ministry of Finance).

3. Demand Side Management (DSM) Project

is a campaign organized by MWA to raise awareness among people about the value of water resources and consciously consume water by adjusting their behavior and support a creation of innovations to preserve water. In addition, the project encouraged entrepreneurs to produce water-saving equipment with water efficiency label from MWA received from the participation in water efficiency label project (water-saving label) for water faucets and water-saving shower heads.



4. MWA checked up 20,000 water hydrants in Bangkok, Nonthaburi and Samut Prakan to ensure that they are in good condition and ready to be used for fire emergencies contributing to the reduction of casualties and damages to people's properties.

MWA has always emphasized on the organization's CSR performance and environmental care and is ready to be part of the sustainable development of local communities and the society along with mastering the organization's main mission in providing people with one of the fundamental public utility, that is clean, safe and global-standard "water supplies" to be in accordance with MWA promise: "quality water for quality life" (see more information regarding MWA's CSR performance and environmental care in "MWA's sustainability report" by scanning the QR-CODE). ➔



Water Production

Process Chart

Raw Water Sources

1. Chao Phraya River, water abstraction from Samlae intake, Ban-Krachang Sub-district, Mueang District, Pathumthani Province.
2. Mae Klong River, water abstraction from Mae Klong Dam, Tah-Muang District, Kanchanaburi Province.

Unit: (million cu.m./day)	Production	Water
	Capacity	Production
Samsen Water Treatment Plant	0.550	0.315
Thonburi Water Treatment Plant	0.120	0.114
Bangkhen Water Treatment Plant	4.000	4.000
Mahasawat Water Treatment Plant	1.600	1.489

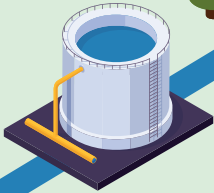


**Samlae/Banglen
Raw Water
Pumping Stations**

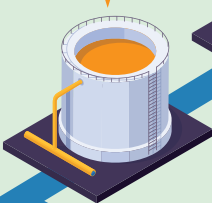
**Raw Water
Pumping Station at
Water Treatment Plant**



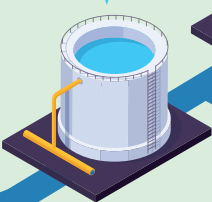
Poly-electrolyte



Alum



Lime



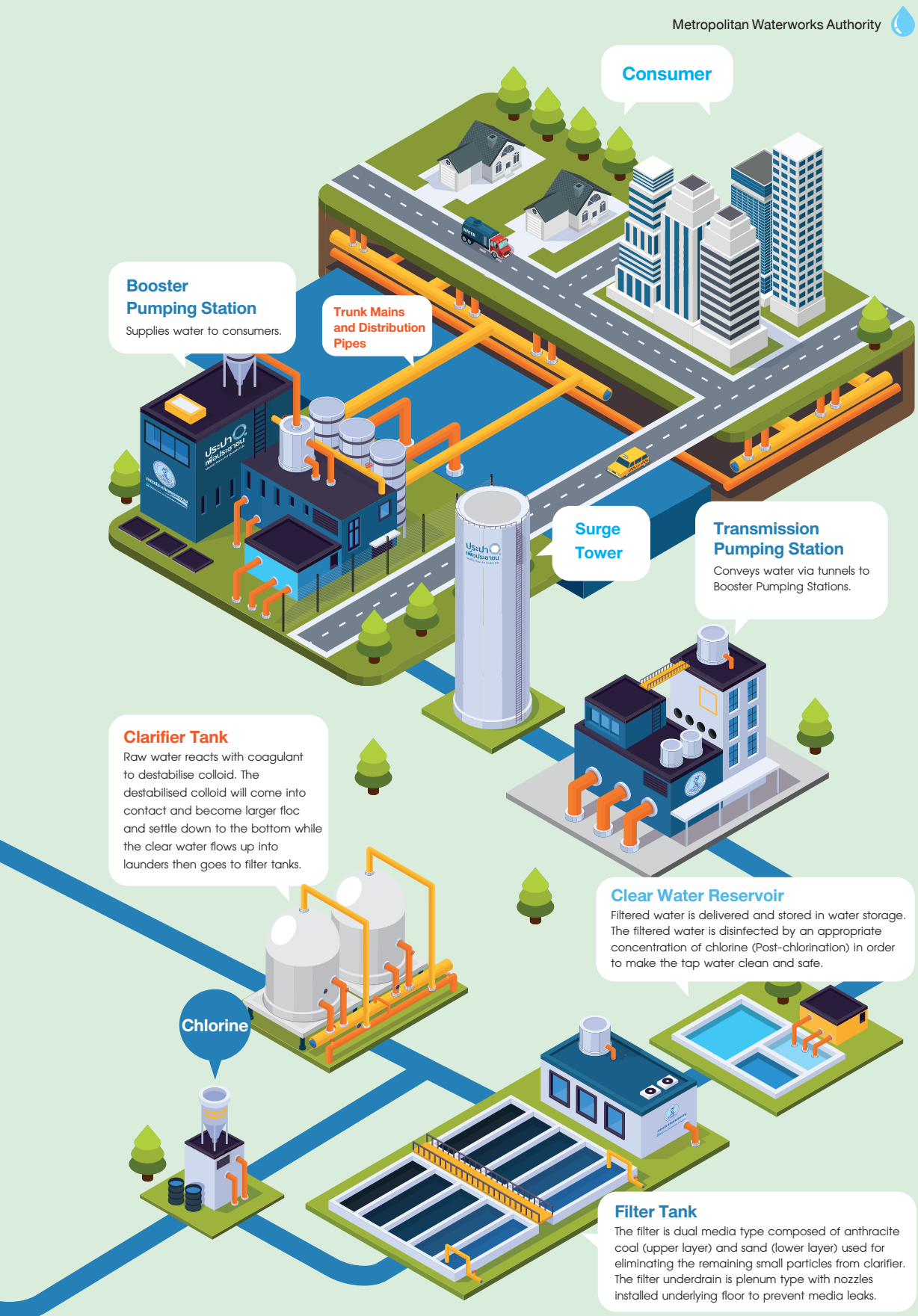
Chemical Feeding

There are 4 main additives:

1. Lime: for pH adjustment
2. Chlorine: for disinfection
3. Alum: for coagulation
4. Poly-electrolyte: for coagulation aid.

Remark:

- Water monitoring and analysis are done by ISO 9001:2015, ISO 14001:2015 and HACCP Certified Water Treatment Plant's Laboratory.
- Water quality analysis and production management comply with WHO's guidelines 2017. Water quality analysis and monitoring conducted in Water Quality Department Laboratory certified to ISO 17025:2005



Pipeline Length and Equipment (As of 30 September 2019)

Dia. Size	Pipe Length (km.)				
	ST	Pipe Jacking		CI	PC-ST
		SCP	RCP (ST)		
Tunnel and Conduit					
3,400	10.367				6.582
3,200	40.846				
3,000	16.286				
2,800	0.070				25.124
2,500	11.980				6.172
2,300	19.497				1.755
2,000	36.801				8.153
1,500	7.289				
Total in Transmission System (km.)	143.135	0.000	0.000	0.000	47.786
Trunk Main					
1,800	12.540	0.676			
1,500	99.255	11.279	10.322		
1,200	↑ 141.549	14.197	1.965	0.044	
1,000	↓ 539.025	↑ 13.676	↑ 35.734	12.937	
900	↑ 28.930			20.374	
800	482.292	0.114	0.168	8.822	
700	↓ 38.634			11.001	
600	↓ 147.630		0.009	15.843	
500	36.190			19.404	
400	↑ 19.133			19.523	
Total in Trunk Main (km.)	1,545.178	39.942	48.198	107.947	0.000
Distribution Pipe					
400	↓ 37.329			6.622	
300	↑ 270.302			2.280	
250	↓ 1.798			0.351	
200	↑ 118.775			1.807	
150	↑ 140.383			0.112	
100	↑ 8.216			0.765	
50	0.048			0.057	
Total in Distribution Pipe (km.)	576.850	0.00	0.00	11.993	0.00
Total in Distribution System (km.)	2,265.164	39.942	48.198	119.941	47.786

* Length of distribution pipeline excluding service pipe (1/2" - 3" size)

Fire Hydrant 150 mm.	30,939 units	Gate Valve	144,340 units
above-the-ground	30,915 units	Butterfly Valve	2,665 units
underground	24 units		

Classification of Pipes							
PC	AC	DI	PVC	GI	HDPE	PB	Total
							16.949
							40.846
							16.286
							25.193
							18.152
							21.252
							44.954
							7.289
0.000	0.000	0.000	0.000	0.000	0.000	0.000	190.921
							13.216
							120.856
0.354		0.013					158.122
4.533							605.905
3.128					1.250		53.681
4.874		0.423			2.643		499.335
↑ 7.004					1.338		57.977
5.103	3.786	2.704			0.582		175.658
13.862	3.090				0.127		72.673
0.222	0.042				0.004		38.925
39.080	6.918	3.140	0.000	0.000	5.944	0.000	1,796.347
	↓ 108.744		↑ 110.932		0.262		263.889
	↓ 1,235.592		↑ 4,528.718	0.053	↑ 47.503		6,084.447
	19.388		↓ 1.288				22.825
	↓ 433.829		↑ 4,460.027	0.012	↑ 82.204		5,096.655
	↓ 948.218		↑ 8,997.072	↓ 24.042	14.214		10,124.040
	↓ 349.474		↑ 12,435.014	↓ 193.452	↑ 59.758		13,046.678
	0.441		↓ 35.549	30.516	3.071	↓ 1,745.436	1,815.117
0.00	3,095.685	0.00	30,568.600	248.075	207.011	1,745.436	36,453.651
39.080	3,102.603	3.140	30,568.600	248.075	212.955	1,745.436	38,440.919

Service Performance of MWA's Branch Offices (As of 30 September 2019)

Branch Office	Service	Customer	New	Water	Water Consumption			Pipe
	Area		Connection	Production	Water Sale	Other	Total	Length
	Sq. km.	Connection	Connection	Million cu.m.	Million cu.m.	Million cu.m.	Million cu.m.	Km.
Region 1	491.73	477,186	14,020	500.17	347.09	10.58	357.67	7,730.746
Sukhumvit	94.89	125,034	2,623	148.16	106.55	2.08	108.63	2,184.916
Phra Khanong	120.21	150,659	4,390	144.80	97.77	4.14	101.91	2,414.821
Samut Prakan	276.62	201,493	7,007	207.21	142.77	4.36	147.13	3,131.009
Region 2	226.48	394,411	5,054	470.16	331.53	4.30	335.83	5,835.331
Phaya Thai	60.91	88,010	1,168	149.71	96.07	3.16	99.23	1,489.480
Thung Mahamek	31.86	71,718	515	88.39	62.16	0.28	62.44	785.075
Mansri	35.81	68,515	549	126.78	87.93	0.41	88.34	866.823
Lad Phrao	97.90	166,168	2,822	105.28	85.37	0.45	85.82	2,693.952
Region 3	762.34	520,557	19,385	381.95	286.96	7.47	294.43	9,243.32
Prachachuen	77.87	115,850	1,876	96.54	64.65	3.05	67.70	1,705.332
Bang Khen	82.07	126,206	4,283	76.12	54.14	1.38	55.52	1,948.005
Min Buri	287.13	160,407	6,593	83.35	70.98	1.87	72.85	3,006.387
Suvarnabhumi	315.28	118,094	6,633	125.94	97.19	1.17	98.36	2,583.606
Region 4	524.12	600,037	12,865	476.13	294.20	10.69	304.89	8,334.491
Bangkok Noi	112.11	134,614	1,779	111.91	66.84	2.95	69.79	2,055.741
Taksin	113.90	156,875	2,795	119.68	81.86	2.30	84.16	2,023.648
Phasi Charoen	128.90	169,424	3,977	129.12	75.41	1.83	77.24	1,897.784
Suksawat	169.21	139,124	4,314	115.42	70.09	3.61	73.70	2,357.319
Region 5	466.26	431,349	16,421	246.77	169.12	5.47	174.59	7,297.031
Nonthaburi	91.96	129,342	1,759	98.13	67.77	1.88	69.65	1,974.602
Bang Bua Thong	209.94	140,942	6,753	67.52	48.23	2.84	51.08	2,603.302
Mahasawat	164.36	161,065	7,909	81.12	53.12	0.75	53.87	2,719.126
Grand Total	2,470.93	2,423,540	67,745	2,075.18	1,428.90	38.51	1,467.41	38,440.919

Major Performance Awards:



1. AREA 2019 for Health Promotion and Corporate Governance Category



2. 2019 Outstanding Public Information Center Award



3. 2019 Public Sector Excellence Award for Service Development and Corporate Governance



4. Honorable Prize for Transparent Organization from the 8th NACC Integrity Awards





5. Silver Award for Genba Kaizen from Thailand Kaizen Award 2019



6. Single Fund Grand Prize for the Provident Fund for State Enterprises Smaller than 5,000 Million Baht in Value



7. Honorable Shield and Certified Label "Government Easy Contact Center (GECC)" Advanced Level 2019



Activities

within the Fiscal Year 2019

1. MWA Plumber for People Project



2. Water Safety Plan (WSP)



3. Water Conservation Camp



4. Downtown Bangkok Townscape Improvement Project



5. World Water Day Event



6. MWA Consumer Meeting Activity



7. Home Temple School (HTS) Project



8. MWA Open House



9. Nan Watershed Conservation Activities



10. Corporate Governance Council



11. The 52nd Anniversary of MWA



12. MWA CG & CSR DAY 2019



13. Stakeholders Day



14. "Get the App, Get Double Luck" Activity





Good Corporate
Governance

Good Corporate Governance

Policy

MWA has enacted the organization's good corporate governance policy for committee, executives and every employee to adhere to. MWA has introduced a clear code of actions since 2006 in accordance with the Principles and Guidelines of Good Corporate Governance for State Enterprises, B.E. 2552 (2009) and Good Corporate Governance Criteria of the Stock Exchange of Thailand. Additionally, MWA has published MWA's Good Corporate Governance manual since 2011. The manual was most recently revised in 2019 and electronically published as an e-book on MWA official website to promote MWA as an organization with efficient management under the principles of good corporate governance for transparent and accountable performance and responsibility toward society, environment and stakeholders leading to the sustainable growth of the organization.

The MWA Good Corporate Governance

Consists of 6 principles, which have been used as a guideline for management and operations to create organizational stability and equitable treatment of stakeholders as follows.



The Rule of Law

Focusing on fair rules and regulations and fair implementation with equitable treatment and no double standards along with keeping corporate operations within the framework of rules and regulations and timeframe with no abuse of authority power as well as paying attention to respect on rights and freedom and updating rules and regulations to reflect the current situation.



Virtue

Adhering to operation virtue in order to be a role model for the society as well as supporting and encouraging people self-development to create society of integrity, sincerity, toleration, discipline and honesty together with abstaining from corrupted activities and working in collaboration with all employees in preventing corrupted acts in the organization.

3



Transparency

Maintaining transparent management and operations in all areas including clear and transparent work process and audit process as well as straightforward, accurate, transparent and timely disclosure of information beneficial to public.

4



Participation

Providing equal opportunity for employees to participate in the management related to recommendation and decision making along with resource allocation which affects operations, employees and employers; providing information, taking employee's opinions into account, giving them advice and allowing them to join planning and plan execution as well as stakeholder control.

5



Accountability

Being aware of rights and duties, sense of responsibility, caring, enthusiasm in problem solving along with willingness and readiness for audit and evaluation which reflects responsibility towards stakeholders as well as accountability for operational consequences.

6



Efficiency & Effectiveness

Performing effective and efficient management, optimizing existing resources for the best benefits of the organization, creating quality and competitive products and services, maintaining sustainable society and environment together with setting key performance indicator and conducting the performance appraisal by recognized independent organizations or persons.



MWA Good Corporate Governance Policy

Revision of MWA's principles and guidelines of good corporate governance

MWA has published MWA's Good Corporate Governance manual that strictly follows the principles of good corporate governance to guarantee the transparency, accountability and integrity of the organization. As a result, to ensure that the principles and guidelines are suitable of the changing contexts and environment, the organization decided to revise MWA's Good Corporate Governance manual, which can be compared to a compass that guides the performance of the organization's committee, subcommittee, executives and every MWA employee. The revised contents were approved by MWA corporate good governance (CG) & corporate social responsibility (CSR) subcommittee, and they were acknowledged by MWA Board of Directors as follows:



The revision of introduction and context of organization



The revision of MWA's good governance contents, evaluation and revision to be in accordance with Organic Act on Anti-corruption, B.E. 2561 (2018), Act on Development of Corporate Governance for State Enterprises, B.E. 2562 (2019), the Principles and Guidelines of Good Corporate Governance for State Enterprises, B.E. 2562 (2019) and the guidelines suggested by State Enterprise Policy Office (SEPO).



Regarding the revision of MWA's ethics and performance etiquette to be in accordance with Ethical Standards Act, B.E. 2562 (2019), it was found that the current ethical standards and performance etiquette of the organization is not lower than the standards indicated in Ethical Standards Act, B.E. 2562 (2019). Additionally, according to Article 6 (3) in Ethical Standards Act, B.E. 2562 (2019) specifies that State Enterprise Policy Office (SEPO) is responsible for publishing Code of Ethics for state enterprises. Also, as stated in Article 22 of the Transitional Provisions, code of ethics and rules, regulations or principles related to ethics of public officers that has been enacted prior the date that this act is enforced can be enacted as long as they are not against any parts in this act. Thus, MWA decided to follow the current ethical standards and performance etiquette.



“

**MWA is
transparent,
inspectable and
uncorrupted**

”

MWA's performance related to corporate governance

MWA Board of Directors has developed an important policy for the organization. Namely, MWA must be governed with principles of good corporate governance and emphasizes corporate social and environment responsibility performance. Corporate good governance (CG) & corporate social responsibility (CSR) subcommittee is responsible for specifying strategies, goals and plans related to corporate governance and social responsibility performance. Additionally, the subcommittee ensures that the organization's performance is fair to relevant stakeholders.

MWA has always been aware and put conscious effort in preventing and working against corruption through major performances including the joint declaration of MWA's performance “transparency, accountability and zero corruption” of MWA Board of Directors and department director and executives to express their resolution to govern and perform their duty with integrity and accountability. In addition, the organization has developed the policy on giving and receiving of gifts and benefits, B.E. 2562 (2019) and established MWA Corporate Governance Council, the first among the state enterprises in Thailand, to encourage employees to be engaged in protecting benefits of the organization and develop immunity against internal and external intervention contributing to the organization's sustainable transparency and anti-corruption. MWA has also established MWA Anti-Corruption operation center to prevent and abolish corruptions and misconduct within the organization. The policy is in accordance with the National Strategies on anti-corruption and also responds to the governmental policy to promote good governance in the national administration and seek cooperation with Ministry of Interior's anti-corruption operation center. MWA anti-corruption operation center is located with MWA Information Center on the 1st floor of MWA head office. Complaints related to corruptions and misconduct can be filed via MWA official channels including telephone, fax, the Internet, the Intranet and QR Code.

Remuneration of Governor and Executives

- The Governor of MWA is appointed through a recruitment process. The contract terms is four years. The Governor receives remuneration as considered and approved by the Board of Directors, depending on his/her knowledge, capacity, responsibility and the MWA's ability to pay within the remuneration framework.

- The current Governor, **Mr. Prinya Yamasamit** (contract period from 19 April 2017 to 11 August 2020) received fixed remuneration of 358,032.46 baht per month in fiscal year 2019 along with other benefits as state in the employment contract. The Governor's Performance Appraisal Subcommittee considered the Governor's performance and resolved that the Governor passed all the appraisal and performance criteria. As a result, the Governor received the remuneration in accordance with the appraisal result of 1,632,284.31 baht per year and additional fixed monthly remuneration from October 2019 of 390,608.04 baht per month.

- Remuneration of top executives (Deputy Governors and Equivalents) is pursuant to the Ministry of Labor's salary structure (46.5 levels). The remuneration of Deputy Governors and Equivalents is not more than 113,520 baht. There are also other benefits both in financial and non-financial terms, including position allowance, bonus, car allowance and other benefits according to the MWA regulations.

Unit: Million Baht

Remuneration	2019	2018	2017	Change 2019 - 2018	
				Increase (Decrease)	
				Million Baht	Percent
Remuneration of Governor	4.54	4.29	4.78	0.25	5.83
Remuneration of Deputy Governors and Equivalents	25.60	23.37	20.93	2.23	9.54
Total	30.14	27.66	25.71	2.48	8.97

The Structure of Board of Directors

According to Standard Qualifications of Directors and State Enterprise Employee Act, B.E. 2518 (1975), a state enterprise Board of Directors consists of a chairperson and committee members of no less than 9 members but no more than 13 members. The Governor is considered a committee member by position. The Board of Directors is appointed by the state cabinet and serves for a term of three years (in case of a termination from office of a committee member prior to the expiration of the term, a successor will be appointed and serve for the remainder of the term).

The current MWA Board of Directors consists of 11 committee members (on 30 September 2019)

- From the list of the directors' pool 7 members
- Independent committees 8 members

All the committee members are experienced and knowledgeable, which will be beneficial for the performance of the organization and come from different occupational fields including engineering, business management, political science and information technology in accordance with Metropolitan Waterworks Authority Act, B.E. 2510 (1967) and the principles of good corporate governance.

Balance of power between Board of Directors and executives

According to Metropolitan Waterworks Authority Act, B.E. 2510 (1967) and the principles of good corporate governance, the responsibilities of the Board of Directors and the organization executives have been clearly divided. The Board of Directors is responsible for policy making and monitoring and evaluating the performance of the organization as well as the performance of the MWA Governor. On the other hand, the MWA Governor is responsible for managing and administrating the performance of the organization to be in accordance with the relevant laws, regulations and policies initiated by the Board of Directors as well as reporting the performance to MWA Board of Directors.

Meeting

MWA Board of Directors has always planned for meetings across the calendar year in advance. A meeting is usually held at least once a month with additional meetings in extraordinary circumstances added when necessary. The Office of MWA Board of Directors serves as the secretary of the meeting. This, the Office is responsible for issuing an invitation, preparing meeting agenda and documents. In 2019, the total of 16 general meetings were held.

(Details of the attendance of each committee member are on page 96 - 97)

Workshop meetings and seminars with the executives to set the direction for strategic performance and future works of the organization.

The committee members received the meeting agenda and documents 7 days on average prior to the meeting date so that they have enough time to study and prepare for the meeting.

In every meeting, the committee members expressed their opinions widely and independently. During an agenda concerning any of the committee members, he/she would leave the meeting until the end of the agenda. For example, during the discussion regarding the assessment of the Governor's performance, the Governor would leave the meeting. Additionally, the meeting minutes recording opinions and remarks are prepared and approved before filing for the committee or relevant persons to check when necessary.

Additionally, the committee usually invited deputy governors to the meeting to ask for information that might be useful for the work of the committee and to directly transfer policies and agendas to deputy governors, so they could implement them promptly and more accurately. However, the deputy governors were not invited when the committee needs the privacy to independently express their opinions.

The appointment of committee and subcommittee

In the fiscal year 2019, MWA Board of Directors appointed the total of 12 committee/subcommittee to help screen and monitor the organization's important procedures. Details about scope of duties and responsibilities of each committee/subcommittee are on page 86 - 95. Additionally, to ensure the standards of performance of each committee/subcommittee, a charter was developed for them to adhere to when performing their responsibilities in accordance with the organization's good corporate governance policy.

Compensations for MWA Board of Directors and committee/subcommittee appointed by the Board of Directors

They would receive the compensations and attendance fee according to the cabinet resolution on 24 April 2019, except for the Audit Committee. The compensation for the Audit Committee is in accordance with Regulations of Ministry of Finance on the Audit Committee and Internal Audit Department of State Enterprise, B.E. 2555 (2012)

1. Compensation/attendance fee

1.1 For MWA Board of Directors, each committee member is subject to personal income tax and shall receive monthly compensation and attendance fee as follows:

- Each committee member shall not receive the compensation of more than 10,000 baht/month.

- The Chairperson of the Board of Directors shall receive the compensation of twice the amount of monthly compensation paid for a committee member (20,000 baht/month)

If a committee member or Chairman is in office for less than a full month, the compensation will be partially paid based on the duration in office.

- Each committee member shall receive the attendance fee per attendance only once/month with the amount of no more than 20,000 baht/person/month for no more than once/month. The attendance fee shall be paid only to the committee members who were in attendance. The Chairperson of the meeting shall receive the attendance fee at the rate of 25% of the amount of attendance fee paid to a committee member. Please note that with appropriate reasons, the attendance fee could be paid to each committee member more than once/month but no more than 15 times/year.

1.2 MWA committee members and other committee members who are not state enterprise employees and were appointed to be committee members in a specific committee/subcommittee/working group shall receive the flat rate attendance fee per frequency of attendance. The attendance fee shall not exceed 0.5 times of the amount of attendance fee paid to state enterprise committee. The committee members mentioned in this item shall not

receive the attendance from more than 2 different specific committees/subcommittees/working groups, each for only once/month. The Chairperson of the meeting shall receive the attendance fee at the rate of 25 percent higher than the amount of attendance fee paid to a committee member unless a relevant law, regulation or cabinet resolution states otherwise. In case that an independent committee member is an employee of a state enterprise and the meeting is considered part of her/his responsibility, the committee member shall not receive the attendance fee since the committee member is considered performing her/his duty.

1.3 The MWA Audit Committee shall receive a flat-rate compensation as members of the MWA Audit Committee. The compensation shall be paid monthly at the same amount of the attendance fee paid to MWA Board of Directors. The Chairperson of the Audit Committee shall receive the compensation at the rate of 25 percent higher than the compensation paid to the committee members and the secretary's compensation shall be paid monthly in half of the compensation paid to the committee members. The compensation shall be paid monthly regardless of whether there is a meeting held in that month. In case that a committee member works for the committee for less than a full month, the compensation shall be paid partially based on the duration of work in the position.

1.4 MWA Relations Affairs Committee is a committed appointed in accordance with a law related to the state enterprise labor relations. The committee is responsible for supporting the work of state enterprise committee. The relations affairs committee shall receive the attendance fee per attendance to committee members in attendance once/month at the rate of 0.5 times of the amount of attendance fee paid to a state enterprise committee member. In case that an appointed committee member is not present at the meeting but appointing another person to attend the meeting on her/his behalf. An appointment letter/evidence must be issued. The representative shall receive the attendance fee.

1.5 A committee member must attend at least 75 percent of the total number of the committee meetings held throughout the year.

2. Bonus

Chairpersons and committee members are subject to receiving bonus according to the cabinet regulations. The distribution of bonus can only be done after the examination and approval of the organization's financial statement by Office of the Auditors General of Thailand. Also, the allocation of bonus must be approved by State Enterprise Policy Office (SEPO). With the completion of the process, MWA can request for an appropriation of the net profit to distribute as bonuses for committee members under the following conditions:

2.1 Bonus payout rate is calculated from the amount of profit to be allocated as bonus:

Profit for bonus allocation (million baht)	Bonus (baht/person)
Less than 100	Three percent of the profit for bonus allocation but no more than 60,000 baht/person
100 - 300	65,000
More than 300 and 500	70,000
More than 500 and 700	75,000
More than 700 and 1,000	80,000
More than 1,000 and 2,000	90,000
More than 2,000 and 5,000	100,000
More than 5,000 and 8,000	110,000
More than 8,000 and 11,000	120,000
More than 11,000 and 13,000	130,000
Every additional 2,000	Additional 10,000

Chairpersons and vice chairpersons shall receive the bonus with the rate of 25 percent and 12.50 percent, respectively, higher than the bonus paid to a committee member.

2.2 The state enterprises that are capable of bonus allocation when there is enough profit for bonus allocation have agreed on allocating bonus to committee members based on their performance as follows:

Performance assessment (score)	Bonus received by a committee member (baht/person/year)
5.00 (excellent)	Base bonus + 100% of the base
4.50	Base bonus + 75% of the base
4.00 (very good)	Base bonus + 50% of the base
3.50	Base bonus + 25% of the base
3.00 (good)	Base bonus
2.50	Base bonus - 25% of the base
2.00 (average)	Base bonus - 50% of the base
1.50	No bonus
1.00 (unsatisfied)	No bonus

Procedure

1. The distribution of bonus must be done after MWA's net profit for public income allocation has already been submitted to Ministry of Finance or has already been approved from State Enterprise Policy Office (SEPO) to pay by installments within a specific time limit.
2. The method of calculation of the net profit for bonus allocation must be in accordance with the regulations set by State Enterprise Policy Office (SEPO), Ministry of Finance.
3. Each committee member is liable to her/his own personal income tax

In one accounting year, of a committee member is absent from the meeting for longer than three months, allocate the bonus for that committee member as follows:

- Absence from the meeting for more than three months but no more than six months, cut down the bonus by 25%
- Absence from the meeting for more than six months but no more than 9 months, cut down the bonus by 50%
- Absence from the meeting for more than 9 months, cut down the bonus by 75%

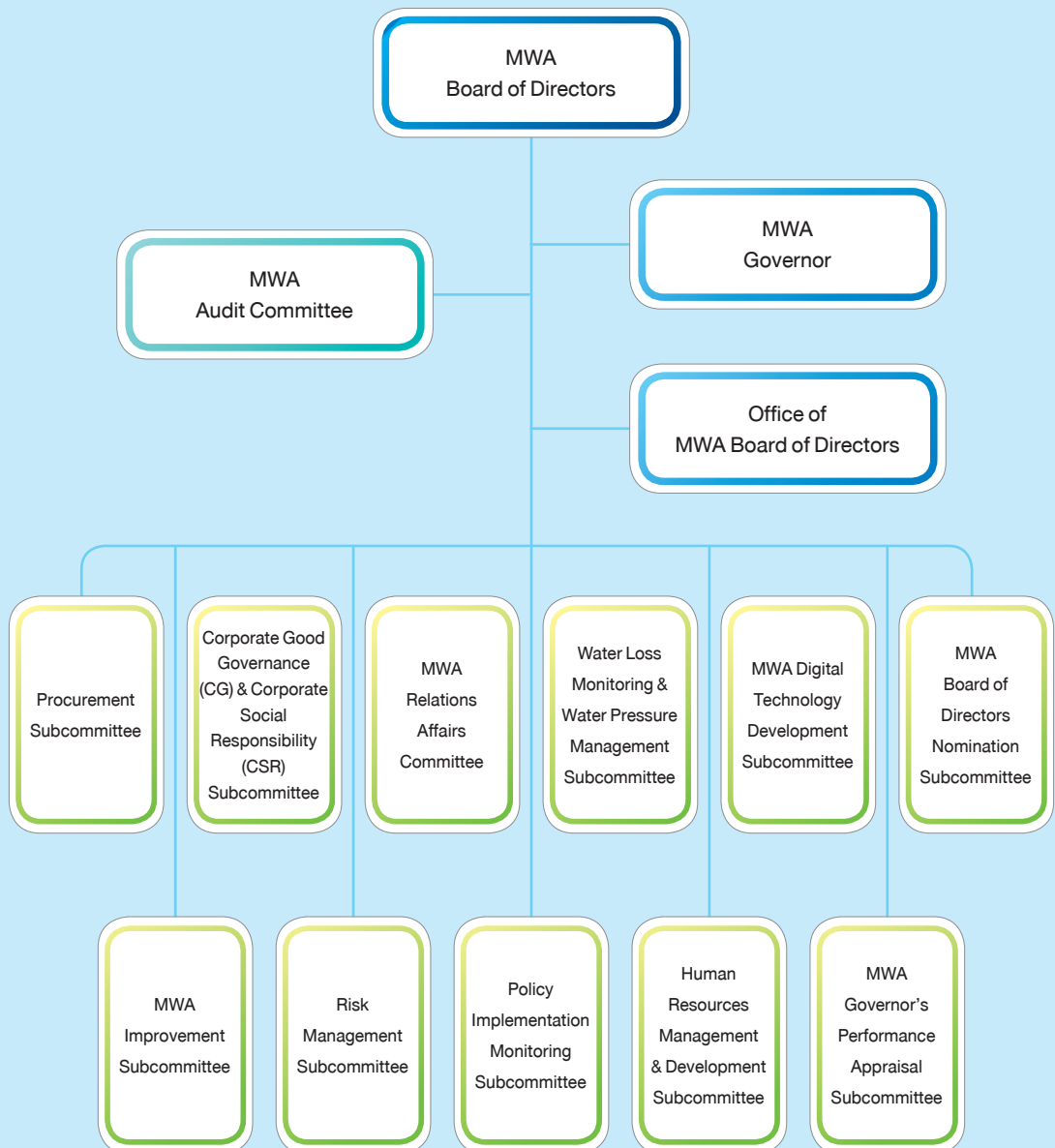
Conflict of Interest Management

MWA has prioritized the issue regarding conflict of interest among relevant people and put a conscious effort in relieving the problem carefully, transparently and accountably. The organization has provided regulations and guidelines regarding conflict of interest as part of good corporate governance policy. The Board of Directors, executives and every employee must disclose the information related to MWA to prevent an issue of conflict of interest between the personal interest of an employee and the interest of the organization either directly or indirectly. Every employee must complete the conflict of interest report form and submit to her/his direct chief in command at the end of the fiscal year. Nonetheless, during the fiscal year, if there is an action that might be considered a conflict of interest, the employee must notify her/his chief in command about the issue. The internal audit office will be responsible for producing a summary report on the issue for the entire organization. As for the year 2019, the Board of Directors, executives and employees, a total of 4,373 persons, complied with the conflict of interest criteria and guidelines. There were 4,372 persons which no conflict of interest was found; only 1 employee reported the conflict of interest.

Regarding any relevant activities that might bring out the issue of conflict of interest or lead to a transfer of benefits during the procurement procedure of the organization. MWA would carefully investigate any potential interest, either directly or indirectly, between individual tenders, corporate tenders or the central market by examining their relationship either in an aspect of management or investment or both. Additionally, there is a cross-checking process to investigate the relationship between contractors and employees in the procurement process by the internal audit office. In 2019, there was no problem related to a conflict of interest or any issue within the organization.



MWA Board of Directors Structure



Appointment of Committees and Subcommittees

(30 September 2019)

1. Procurement Subcommittee

1. Mr. Wanchai Lawattanatrakul	Chairman
2. Mrs. Siriporn Luangnual	Vice Chairman
3. Mr. Kidditada Charusakul	Member
4. Mr. Pairoj Sattayasansakul	Member
5. Mr. Surasak Satawiriya	Member
6. Mr. Piched Niamnud	Member
7. Mrs. Duangjai Tanticharatchai	Member
8. Ms. Kanatwatda Supap	Member
9. Mr. Decha Mekvilai	Member
10. Ms. Jantana Techasirinugool	Member
11. Deputy Governor (Administration)	Member
12. Deputy Governor (Engineering and Construction)	Member
13. Assistant Governor (Construction)	Member and Secretary
14. Director of Project Management Department	Assistant Secretary
15. Director of Procurement and Supplies Department	Assistant Secretary

Procurement Subcommittee is responsible for screening the authorization requests for procurement and work contracts; selecting consultants/contractors and employing design and construction monitoring; approving changes in procurement and work contracts; reducing or waiving a fine for contract parties and extending period of time of procurement and work contracts which is within the confines of power of the MWA board of directors prior to submission to the MWA Board of Directors for approval; following up and monitoring the implementation of contracts as seemed appropriate; revising drafts of relevant rules and regulations; and providing the necessary guidance and solution to support or assist the administrative framework which the procurement process can be achieved.

2. MWA Improvement Subcommittee

1. Mrs. Siriporn Luangnual	Chairman
2. Mr. Wanchai Lawattanatrakul	Vice Chairman
3. Mr. Nattakit Tangpoonsinthana, Ph.D.	Member
4. Governor	Member
5. Mr. Montri Srisakul	Member
6. Mr. Sakol Leenothai	Member
7. the representatives from National Economic and Social Development Board (Ms. Soontraluck Petchkoon, Ms. Ratchanee Saelim)	Member
8. Ms. Yanee Ruamragsa	Member
9. Ms. Oranuch Vinusit	Member
10. Ms. Jirika Nutalay	Member
11. Mr. Luechai Deethawon	Member
12. Deputy Governor (Planning and Development)	Member
13. Chairman of Labour Union of MWA	Member
14. Assistant Governor (Planning and Development)	Member and Secretary
15. Director of Policy and Strategy Department	Assistant Secretary

MWA Improvement Subcommittee is responsible for scrutinizing the MWA management strategies and annual action plan; allocating budget in line with the MWA action plan as well as all aspects of operation plans ranging from water production to waterworks system from providing raw water sources for waterworks activities including producing, distributing, selling treated water and providing advices service about administration, water service and investment to administrative section and MWA Board of Directors to consider and provide consultation towards service management and investment along with approving financial management, financial analysis report and financial status; managing and controlling investment budget in accordance with the action plan; providing guidelines on concerned MWA business operation to enhance revenues; establishing procedures and benchmarks for continual monitoring and assessing the MWA performance in order to achieve the objectives and targets of the organization; contemplating and amending law, regulations, agreements and contracts as well as reviewing conditions and procedures within the management sector for greater flexibility in practice.

3. Corporate Good Governance (CG) and Corporate Social Responsibility (CSR) Subcommittee

1. Mr. Nattakit Tangpoonsinthana, Ph.D.	Chairman
2. Mrs. Siriporn Luangnual	Vice Chairman
3. Governor	Member
4. Ms. Piyawan Lamkitcha	Member
5. Mr. Ruangchai Saphirund	Member
6. Mr. Krishna Boonyachai	Member
7. Mr. Peerapong Klinla-or, Ph.D.	Member
8. Mr. Kriengkrai Suebsumpan	Member
9. Mr. Sakkasem Niyomvanich, Ph.D.	Member
10. Mrs. Tatiya Jai boon	Member
11. Assistant Governor (Office of MWA Board of Director)	Member
12. Chairman of Labour Union of MWA	Member
13. Assistant Governor (Office of Governor)	Member and Secretary
14. Director of Corporate Governance Department	Assistant Secretary

Corporate Good Governance (CG) and Corporate Social Responsibility (CSR) Subcommittee is responsible for scrutinizing and approving good governance operation plan and corporate social responsibility plan in accordance with any changes occurred and with international guidance; monitoring the operation status; suggesting the direction of business ethics including working procedures for directors, managers, employees and staff members providing advices to the MWA Board of Directors where there is a conflict regarding organization benefits; providing advices about the operation in terms of corporate social responsibility; scrutinizing policy and public relations strategy of MWA to each of stakeholder groups; considering and approving the MWA annual public relations plan; monitoring business operation in aspect of public relations in order to cultivate MWA's good image as well as reliability within public sector and setting guidance for the museum administration that can show historical knowledge about waterworks from the past to the present and the future trend as well as allocating the supporting budget.

4. Risk Management Subcommittee

1. Asst.Prof. Teekawuth Potapirom	Chairman
2. Prof. Suwatana Chittaladakorn, Ph.D.	Vice Chairman
3. Governor	Member
4. V.adm. Nadaecho Kerdchoochuen	Member
5. Selected Representative from Royal Irrigation Department (Mr. Sanya Saengpumpong)	Member
6. Ms. Vorrachaya Latthayaporn	Member
7. Mr. Therdthum Wongkalasin	Member
8. Mr. Vichian Udomratanasilpa	Member
9. Assoc.Prof. Patcharaporn Suwanvitaya	Member
10. Asst.Prof. Sampan Hunpayon	Member
11. Assoc.Prof. Prawit Suraneerarat	Member
12. Mr. Wisit Wongwiwat	Member
13. Mr. Yongyuth Arpaichiratana	Member
14. Deputy Governor (Planning and Development)	Member
15. Deputy Governor (Water Production and Transmission)	Member
16. Assistant Governor (Planning and Development)	Member and Secretary
17. Director of Risk Management Department	Assistant Secretary

Risk Management Subcommittee is responsible for providing recommendation and support to MWA board of directors in formulating risk management policies, risk management process, risk appetite and risk tolerance; providing advices, approving, identifying, analyzing, and assessing risks and risk management plan to ensure that every necessary risk within the organization can be properly managed and solved; providing recommendation for establishing business stability and continuity; approving risk management plan prior to submission to the MWA Board of Directors; supervising and monitoring the implementation of risk management policy, plan and process as well as the efficiency of risk management; screening and reviewing risk management report and establishing the culture and communication of appropriate risk management in the organization.

5. Policy Implementation Monitoring Subcommittee

1. Mr. Thongplew Kongjun, D.Eng.	Chairman
2. Mr. Wanchai Lawattanatrakul	Vice Chairman
3. Mr. Somdee Kachayangyeaen	Member
4. Mr. Wiwatchai Rattanarat	Member
5. Mr. Asawin Chotipanang, Ph.D.	Member
6. Lt.Gen. Prachaphat Vachanaratna	Member
7. Mr. Prateep Pakdeerod	Member
8. Assistant Governor (Water Production System)	Member
9. Assistant Governor (Administration)	Member
10. Assistant Governor (Engineering)	Member
11. Assistant Governor (Services)	Member
12. Assistant Governor (Information Technology)	Member
13. Assistant Governor (Office of MWA Board of Director)	Member and Secretary
14. Director of MWA Board of Director Affairs Department	Assistant Secretary

Policy Implementation Monitoring Subcommittee is responsible for monitoring the implementation of policies formulated by the government; supervising ministries, and the MWA Board of Directors; following up the implementation of Water Supply Improvement Project, Expense Disbursement and other major projects and reporting to the MWA Board of Directors on a monthly basis.

6. MWA Relations Affairs Committee

Mr. Chaichana Mitrpant, Ph.D. Chairman

Employer's Representatives:

- | | |
|---|--------|
| 1. Deputy Governor (Administration) | Member |
| 2. Assistant Governor (Waterworks Academic Development) | Member |
| 3. Assistant Governor (Financial Policy) | Member |
| 4. Assistant Governor (Services 1) | Member |
| 5. Assistant Governor (Construction) | Member |
| 6. Assistant Governor (Water Production System) | Member |
| 7. Assistant Governor (Planning and Development) | Member |
| 8. Assistant Governor (Information Technology) | Member |
| 9. Assistant Governor (Human Resource Management) | Member |

Employee's Representatives:

- | | |
|--|-----------|
| 1. Mr. Sompop Pranswatdi | Member |
| 2. Mr. Paiwong Leelakan | Member |
| 3. Acting Lt. Ruengsil Kotchanin | Member |
| 4. Mr. Suchan Thanavirojkul | Member |
| 5. Mr. Noppanan Gunluksar | Member |
| 6. Mr. Naris Plukchalee | Member |
| 7. Mr. Supan Srimata | Member |
| 8. Mr. Praphon Prathomchai | Member |
| 9. Mr. Sakon Boonsuaykwan | Member |
| 10. Director of Welfare and Labor Relations Affairs Department | Secretary |

MWA Relations Affairs Committee has a duty under the Article 23 of the State Enterprise Labor Relations Act B.E. 2543 (AD 2000); providing opinions on improving the effectiveness of the state enterprise operations as well as promoting and developing labor relations; making compromise and ending conflicts within the state enterprise; amending work regulations for the benefits of the state enterprise employers and employees; providing counseling to solve employees or the labor union's problems and complaints related to disciplinary punishment and providing consultation to improve the employment situation.

7. Water Loss Monitoring and Water Pressure Management Subcommittee

1. Prof. Suwatana Chittaladakorn, Ph.D.	Chairman
2. Mr. Chaichana Mitrpant, Ph.D.	Vice Chairman
3. Assoc.Prof. Chanin Tinnachote, Ph.D.	Member
4. Governor	Member
5. Mr. Taiwhut Khankaew	Member
6. Mr. Sompop Sucharit, Ph.D.	Member
7. Asst.Prof. Sitang Pilailar, Ph.D.	Member
8. Mr. Vitaya Intachit	Member
9. Mr. Somchai Chai-anuraks	Member
10. Deputy Governor (Western Services)	Member
11. Deputy Governor (Eastern Services)	Member
12. Deputy Governor (Engineering and Construction)	Member
13. Assistant Governor (Water Transmission and Distribution System)	Member
14. Assistant Governor (Services)	Member and Secretary
15. Director of Integrated Water Loss Management Technology Department	Assistant Secretary

Water Loss Monitoring and Water Pressure Management Subcommittee is responsible for screening strategies, water loss and water pressure management plan for the effective water loss reduction as well as ensuring the achievement of the plans; accelerating the operation of the water loss management; screening and allocating budget for water loss management activities with advanced water loss management technology and monitoring the implementation of the water loss management as planned; then, reporting all progress to MWA Board of Directors.

8. Human Resources Management and Development Subcommittee

1. Mr. Nisit Jansomwong	Chairman
2. Prof. Suwatana Chittaladakorn, Ph.D	Vice Chairman
3. Mr. Nattakit Tangpoonsinthana, Ph.D.	Member
4. Governor	Member
5. Ms. Rasa Kanchanasai	Member
6. Mrs. Nongphanga Boonpak	Member
7. Mr. Seubphong Buranasirin	Member
8. Pol.Lt.Gen. Sompong Chingduang	Member
9. Mr. Somsak Poothongchairit	Member
10. Deputy Governor (Administration)	Member
11. Deputy Governor (Planning and Development)	Member
12. Mr. Chaiwat Vorapeboonpong	Member
MWA Expert (Level 10)	
13. Assistant Governor (Waterworks Academic Development)	Member
14. Chairman of Labour Union of MWA	Member
15. Assistant Governor (Human Resource Management)	Member and Secretary
16. Director of Human Resources Development Department	Assistant Secretary
17. Director of Human Resources Management Department	Assistant Secretary

Human Resources Management and Development Subcommittee is responsible for scrutinizing human resource management and human resource development policies and strategies that systematically support each other; considering administrative structure, MWA employee's salary and organizational administration structure in the form of Business Unit (BU); providing advices to optimize human resource management and development; monitoring and following up the operations in aspects of human resource management and human resource development and reporting all progress to MWA Board of Directors; screening policies, directions and trends for the management of the MWA Waterworks Academy in order to achieve the international recognition and standards; scrutinizing policies, promoting and encouraging waterworks research, development and innovations which are in accord with MWA management strategies to lead at an international level; governing and monitoring human resource management and development activities including related researches.

9. MWA Digital Technology Development Subcommittee

1. Assoc.Prof. Chanin Tinnachote, Ph.D.	Chairman
2. Mr. Chaichana Mitrpant, Ph.D.	Vice Chairman
3. Governor	Member
4. Assoc.Prof. Asanee Kawtrakul, Ph.D.	Member
5. Asst.Prof. Phongchai Nilas, Ph.D.	Member
6. Dr. Khanat Kruthkul	Member
7. Mr. Jirasak Kananukul	Member
8. Mr. Maythapolnun Athimethphat	Member
9. Asst.Prof. Apinetr Unakul	Member
10. Prof. Kosin Chamnongthai, Ph.D.	Member
11. Deputy Governor (Engineering and Construction)	Member
12. Deputy Governor (Western Services)	Member
13. Deputy Governor (Information Technology)	Member
14. Deputy Governor (Water Production and Transmission)	Member
15. Assistant Governor (Information Technology)	Member and Secretary
16. Director of Technology Development and Support Department	Assistant Secretary

MWA Digital Technology Development Subcommittee is responsible for providing advices and in-depth IT information to MWA Board of Directors; directing and formulating IT strategies in order to promote good corporate governance on IT management within the organization; supporting and monitoring IT system development and reviewing IT plans regularly together with technological changes at the present time; following performance results of IT administration and counseling the strategic information technology to MWA Board of Director and executives.

10. Audit Committee

- | | |
|---|----------------------|
| 1. Asst.Prof. Teekawuth Potapirom | Chairman |
| 2. Mr. Thongplew Kongjun, D.Eng. | Member |
| 3. Assoc.Prof. Chanin Tinnachote, Ph.D. | Member |
| 4. Assistant Governor (Internal Audit Office) | Member and Secretary |

Audit Committee is responsible for reviewing the MWA's operation for its compliance with regulations, rules, guidance, Cabinet's resolution, and announcements or orders relevant to the state enterprise operations; reviewing the accuracy and credibility of financial report; monitoring the sufficiency and effectiveness of internal control system, good governance process, and risk management process; monitoring and ensuring the MWA's good internal audit system and examining the independence of the internal audit unit.

11. MWA Governor's Performance Appraisal Subcommittee

- | | |
|---|----------------------|
| 1. Mr. Nisit Jansomwong | Chairman |
| 2. Mr. Wanchai Lawattanatrakul | Vice Chairman |
| 3. Mrs. Siriporn Luangnual | Member |
| 4. Assistant Governor (Office of MWA Board of Director) | Member and Secretary |

The MWA Governor's Performance Appraisal Subcommittee is responsible for screening the action plan of MWA Governor prior to creating the MWA Governor's performance appraisal criterion and subjecting to approval of the MWA Board of Directors as well as conducting MWA Governor's performance appraisal within the specified period.

12. MWA Board of Directors Nomination Subcommittee

- | | |
|---|----------------------|
| 1. Mr. Nisit Jansomwong | Chairman |
| 2. Mr. Wanchai Lawattanatrakul | Member |
| 3. Mrs. Siriporn Luangnual | Member |
| 4. Assistant Governor (Office of MWA Board of Director) | Member and Secretary |

MWA Board of Directors Nomination Subcommittee is responsible for considering criterions of MWA Board of Directors qualifications according to Standard Qualifications of Directors and State Enterprise Employees Act B.E. 2518 and revised ones, also following the procedure of appointment members of the State Enterprise Directors as Office of the State Enterprise Policy Commission has defined, as well as nominating qualified person(s) in order to present MWA Board of Directors committee for approval.

Meeting Attendance and Remuneration of Board of Directors, Committees and Subcommittees

(As of 1 October 2018 - 30 September 2019)

No.	Name - Surname	Position	Board of Directors	Audit Committee	Risk Management Subcommittee	MWA Governor's Performance Appraisal Subcommittee	MWA Relations Affairs Committee	Procurement Subcommittee	MWA Improvement Subcommittee	MWA Digital Technology Development Subcommittee	Corporate Good Governance (CG) & Corporate Social Responsibility (CSR) Subcommittee
			(16 Meetings)	(9 Meetings)	(12 Meetings)	(5 Meetings)	(12 Meetings)	(12 Meetings)	(12 Meetings)	(12 Meetings)	(12 Meetings)
1	Mr. Vullop Phringphong	Chairman	16/16								
2	Mr. Nisit Jansomwong	Director	13/16			5/5					
3	Prof. Suwatana Chittaladakorn, Ph.D.	Director	13/16		9/12						
4	Mr. Wanchai Lawattanatrakul	Director	16/16			5/5		12/12	12/12		
5	Mr. Nattakit Tangpoonsinthana, Ph.D.	Director	13/16						5/12		12/12
6	Asst.Prof. Teekawuth Potapirom	Director	15/16	9/9	12/12						
7	Mr. Chaichana Mitprant, Ph.D.	Director	5/16				12/12			3/12	
8	Mr. Thongplew Kongjun, D.Eng.	Director	10/16	1/9							
9	Assoc.Prof. Chanin Tinnachote, Ph.D.	Director	14/16	4/5					3/5	12/12	
10	V.adm. Nadaecho Kerdchoochuen	Director	5/5	4/4	4/5						
11	Mrs. Siriporn Luangnual	Director	15/16			4/5		11/12	12/12		9/12
12	Mr. Prinya Yamasamit	Director	16/16		12/12				11/12	12/12	12/12

Remark: No. 10 Retired at the age of 65 on 6 February 2019

Policy Implementation Monitoring Subcommittee	Water Loss Monitoring & Water Pressure Management Subcommittee	Human Resources Management & Development Subcommittee	MWA Board of Directors Nomination Subcommittee	Commission of Inquiry for fairness complaint into the case of the procurement process of flood control system (Sam-Lae)	Commission of Inquiry into the case of a violation of Administrative Procedure Act	Commission of Inquiry into the case of a violation of Administrative Procedure Act (amended)	Commission of Inquiry into the case of fairness complaints by MWA personnel	Meeting Allowance from All Committee	Fixed Remuneration	Bonus	Total Remuneration
(12 Meetings)	(12 Meetings)	(12 Meetings)	(4 Meetings)	(14 Meetings)	(4 Meetings)	(2 Meetings)	(2 Meetings)				
								262,500.00	240,000.00	206,250.00	708,750.00
		9/12	4/4				0/2	370,000.00	120,000.00	165,000.00	655,000.00
	12/12	11/12						470,000.00	120,000.00	165,000.00	755,000.00
5/12			4/4			2/2	2/2	488,750.00	120,000.00	165,000.00	773,750.00
		3/12						410,000.00	120,000.00	165,000.00	695,000.00
	4/5			2/2	1/1			546,250.00	120,000.00	165,000.00	831,250.00
	0/12							263,750.00	120,000.00	82,500.00	466,250.00
10/12								405,000.00	120,000.00	165,000.00	690,000.00
	10/12					2/2		490,000.00	120,000.00	165,000.00	775,000.00
2/4				11/12	3/3			167,678.57	52,142.86	57,946.43	277,767.86
			3/4					467,500.00	120,000.00	165,000.00	752,500.00
	12/12	12/12				2/2		450,000.00	120,000.00	165,000.00	735,000.00
								4,791,428.57	1,492,142.86	1,831,696.43	8,115,267.86

MWA Performance According to the Official Information Act, B.E. 2540 (1997)

In the digital age, information disclosure of public organization is advanced and deems significant for the image of the organization. People can access into official information from different modern and convenient channels. MWA has improved itself and imported news and information according to Article 7 and Article 9 in the Official Information Act, B.E. 2540 (1997) and published them on the organization's electronic information center according to the evaluation criteria for public organization's outstanding information center 2019.

This year, MWA participated in the competition of public organization's outstanding information center 2019 on behalf of Ministry of Interior and won the prize as one of the nine public organizations that received a commemorative award from Deputy Prime Minister (Mr. Witsanu Kreua-ngam) in an annual academic seminar regarding the enactment of the Official Information Act, B.E. 2540 (1997) on 20 September 2019 at Santi Maitree Building, Government House.

MWA has established the organization's physical information center at the first floor of MWA Head Office and also an electronic information center to provide news and information related to MWA to people. The information centers are under the management of Corporate Information and Communication Appraisal Section, Corporate Image Management and Communication Planning Division under the Corporate Communications Department.



2019 Performance

The MWA Information Center carried out its duty according to the organization's action plan of the fiscal year 2019. The center was governed by MWA Information Committee, who is responsible for monitoring the performance of the center to be in accordance with the Official Information Act, B.E. 2540 (1997) and MWA regulations regarding MWA information, B.E. 2561 (2018). The performance of the previous year can be summarized as follows:

- [Organizing the meeting of MWA Information Committee](#) to discuss or report performances of the center. The performance results include the operation plan of the fiscal year 2018, the assessment result of the center following the assessment criteria for public organization's outstanding information center 2018, the study visit to the information center of other organization, the participation in Public organization's outstanding information center contest 2019, and the performance of the center in the fiscal year 2019.

- [Study visit](#) 15 MWA Information Committee and staff of the information center visited the information center of Department of Groundwater Resources on 30 January 2019 at the Head Office of Department of Groundwater Resources.

- [Organizing workshops](#). On 26 March 2019 at the Multipurpose Building, the Head office, the MWA Information Center was pleased to welcome experts from Office of the Official Information Commission, Office of the Permanent Secretary, Prime Minister Office to educate the total number of 368 MWA employees at the level of division director or equivalents from different field of work about the Official Information Act, B.E. 2540 (1997).

- [Attend a training course](#) MWA allowed its staff to join a training course and took an examination 2019 hosted by Office of the Permanent Secretary and two of MWA staff passed the test. In addition, MWA staff attended a course on the Official Information Act via Office of the Civil Service Commission (OCSC)'s e-learning system and took the test provided. Two of MWA staff passed the test.

- [Publicizing MWA Information Center](#). The staff of MWA Information Center organized an activity to meet the consumers, advertise about the work of MWA Information Center, and disseminate knowledge and understanding about the Official Information Act, B.E. 2540 (1997) at Nonthaburi City Hall and Samut Prakan City Hall.

- [Service providing statistics](#)

- 1) At the physical information center 2 cases
- 2) On the electronic information center 13,308 cases
- 3) Providing information for individual request (Article 11) 2 cases



Information Center, Metropolitan Waterworks Authority (MWA)





Information and Statistics

General Statistics	Fiscal Year				
	2015	2016	2017	2018	2019
Total Water Production (million cu.m.)	1,835.1	1,965.9	2,063.8	1,997.1	2,075.2
Bangkhen Water Treatment Plant	1,152.9	1,290.9	1,404.5	1,334.4	1,402.3
Samsen Water Treatment Plant	137.9	129.7	120.7	116.4	113.0
Thonburi Water Treatment Plant	33.7	30.9	40.5	37.4	41.1
Mahasawat Water Treatment Plant	510.6	514.4	498.1	508.9	518.8
Total Water Consumption (million cu.m.)	1,406.3	1,406.3	1,408.6	1,401.4	1,467.4
Residence	657.8	653.8	656.8	651.5	675.7
Commerce, State Enterprise, Government Agency and Others	724.8	723.7	723.4	719.6	753.2
Public Water Supply and Others	23.7	28.8	28.4	30.3	38.5
Percentage of Water Consumption (%)	76.63	71.53	68.25	70.17	70.71
Number of Customers at Year End (Connection)	2,226,707	2,281,058	2,328,598	2,375,490	2,423,540
Residence	1,784,541	1,835,430	1,878,888	1,921,897	1,957,391
Commerce, State Enterprise, Government Agency and Others	442,166	445,628	449,710	453,593	466,149
Small User (Connection)	2,190,943	2,244,815	2,292,106	2,338,779	2,386,832
Meter Diameter 1/2 ins.	1,367,682	1,394,915	1,421,764	1,459,347	1,510,537
Meter Diameter 3/4 ins.	757,753	783,235	802,913	811,431	807,907
Meter Diameter over 1 ins.	65,508	66,665	67,429	68,001	68,388
Large User (Connection)	35,764	36,243	36,492	36,711	36,708
Meter Diameter 1 1/2 ins.	14,502	14,804	15,058	15,610	16,078
Meter Diameter 2 ins.	13,919	14,015	13,972	13,672	13,243
Meter Diameter over 2 ins	7,343	7,424	7,462	7,429	7,387
Number of New Connections (Connection)	72,865	71,325	65,327	65,653	67,745
Average Water Consumption per Customer per Month (cu.m.)	52.34	50.88	49.85	48.55	49.58
Residence	31.13	30.08	29.44	28.56	29.02
Commerce, State Enterprise, Government Agency and Others	137.23	135.57	134.54	132.56	136.14
Average Water Tariffs per cu.m. (Baht)	12.02	12.02	12.01	11.98	11.99
Residence	10.01	10.03	10.03	9.99	10.00
Commerce, State Enterprise, Government Agency and Others	13.84	13.83	13.82	13.79	13.79
Number of Personnel at Year End (Person)	5,339	5,386	5,403	5,365	5,378
Number of Employees at Year End	4,246	4,326	4,385	4,310	4,303
Number of Contract Workers at Year End	1,093	1,060	1,018	1,055	1,075
Ratio of Consumers to One Employee (Connection)	417	424	431	443	451
Population in Responsible Areas at Year End (Person)	8,156,851	8,192,123	8,222,916	8,249,551	8,276,526
Number of Households in Responsible Areas at Year End (House)	3,958,491	4,099,437	4,210,444	4,323,941	4,436,973

Financial Statistics	Fiscal Year				
	2015	2016	2017	2018	2019
Total Assets (Million Baht)	66,751.2	68,254.4	72,214.9	75,108.5	78,949.2
Current Assets	13,564.0	14,873.5	17,343.6	21,561.4	20,751.8
Non-Current Assets	53,187.2	53,380.9	54,871.3	53,547.1	58,197.4
Total Liabilities (Million Baht)	12,051.6	12,435.9	15,405.8	14,599.2	15,320.1
Current Liabilities	4,853.6	4,932.4	4,678.4	4,453.4	4,059.6
Non-Current Liabilities	7,198.0	7,503.5	10,727.4	10,145.8	11,260.5
Equity (Million Baht)	54,699.6	55,818.5	56,809.1	60,509.3	63,629.1
Total Revenues (Million Baht)	19,917.2	20,074.2	19,193.2	19,203.0	20,012.8
Operating Revenues	19,577.8	19,681.1	18,850.5	18,801.1	19,510.3
Water Charge and Monthly Meter Fees	17,735.2	17,698.6	17,740.3	17,602.6	18,334.2
New Connections	410.1	391.6	406.6	396.7	385.9
Other Operating Revenues	1,432.5	1,590.9	703.6	801.8	790.2
Non-Operating Revenues	339.4	393.1	342.7	401.9	502.5
Total Expense (Million Baht)	12,767.2	12,904.5	11,624.8	11,683.8	13,009.3
Operating Expenses	12,749.1	12,831.2	11,701.4	11,676.6	12,974.5
Direct Operating Expenses	7,983.4	7,945.7	7,305.8	7,142.7	8,173.6
Depreciation and Amortization	4,704.3	4,829.0	4,345.5	4,493.3	4,770.1
Finance Cost	61.4	56.5	50.1	40.6	30.8
Non-Operating Expenses	18.1	73.3	(76.6)	7.2	34.8
Other Expenses	2.5	2.6	10.9	26.0	36.7
(Profit) Loss on Foreign Exchange Rates	15.6	70.7	(87.5)	(18.8)	(1.9)
Net Profit (Million Baht)	7,150.0	7,169.7	7,568.4	7,519.2	7,003.5
Rate of Return on Total Assets (%)	10.71	10.50	10.48	10.01	8.87
Rate of Return on Equity (%)	13.07	12.84	13.32	12.43	11.01
Net Profit Margin (%)	36.52	36.43	40.15	39.99	35.90
Assets Turnover (Times)	0.29	0.29	0.26	0.25	0.25
Current Ratio (Times)	2.79	3.02	3.71	4.84	5.11
Ratio of Liabilities on Total Assets (Times)	0.18	0.18	0.21	0.19	0.19
Debt Equity Ratio (Times)	0.22	0.22	0.27	0.24	0.24
Cost per Unit Sold (Baht)	8.55	8.65	8.31	8.03	8.67

Remark: 2017 Financial information has changed from the original due to the accounting adjustment in the fiscal year 2018. Therefore, the information must be updated in fiscal year 2017 for the benefit of comparison.



Water Tariffs and New Connection Tariffs

Type 1: Residence		Type 2: Commerce, Government Agency, State Enterprise, Industry and Others	
Volume (cu.m.)	Water Tariffs (baht/cu.m.)	Volume (cu.m.)	Water Tariffs (baht/cu.m.)
1 - 30	8.50	0 - 10	9.50 not less than 90.00 baht
31 - 40	10.03	11 - 20	10.70
41 - 50	10.35	21 - 30	10.95
51 - 60	10.68	31 - 40	13.21
61 - 70	11.00	41 - 50	13.54
71 - 80	11.33	51 - 60	13.86
81 - 90	12.50	61 - 80	14.19
91 - 100	12.82	81 - 100	14.51
101 - 120	13.15	101 - 120	14.84
121 - 160	13.47	121 - 160	15.16
161 - 200	13.80	161 - 200	15.49
More than 200	14.45	More than 200	15.81

Remarks:

- The above water tariffs do not include VAT.
- The average water tariff for bulk sale is as follows:
 - * Residence: 10.50 baht/cu.m.
 - * Others: 13.00 baht/cu.m.

Since 1 June 2004, MWA has included the raw water charge at the rate of 0.15 baht/cu.m. in order to remit it to Royal Irrigation Department.

New Connection Tariffs (Flat Rate and Monthly Service Charge)

Unit: Baht

Meter Size	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	12"
New Connection Fee	5,000	6,000	8,000	12,500	38,500	76,000	93,500	156,500	210,000	431,500
Deposit Fee	400	600	1,500	3,000	4,000	10,000	15,000	20,000	30,000	100,000
Monthly Service Charge	25	40	50	80	300	400	500	900	1,100	3,500

Remarks:

- New connection applicants must pay for additional fees of pipeline installation and equipment for the connection 20 meters away from the MWA main pipeline. The water pipe installation cost is as follows: *

Pipe Size (mm.)	20	25	40	50	100	150	200	300
Cost per meter (baht)	355	386	452	997	1,981	2,160	2,364	3,017

- The above fees do not include VAT.



Location of
MWA Branch Offices



MWA Head Office

400 Prachachuen Road, Tungsonghong, Laksi, Bangkok 10210

 Tel : 0-2504-0123  Fax : 0-2500-2582-3

 E-mail : mwa1125@mwa.co.th

Sukhumvit Branch Office

1564/1 Sukhumvit Road, Phra Khanong,
Khlong Toei, Bangkok 10260

 Tel : 0-2331-0028-30

 Fax : 0-2331-7533

 E-mail : br07s00@mwa.co.th

Prachachuen Branch Office

2 Soi Soem Suk, Prachachuen Road,
Chatuchak, Chatuchak, Bangkok 10900

 Tel : 0-2585-7444, 0-2585-0319,
0-2585-3889, 0-2585-0490

 Fax : 0-2586-0922

 E-mail : br15s00@mwa.co.th

Phra Khanong Branch Office

1564/1 Sukhumvit Road, Phra Khanong,
Khlong Toei, Bangkok 10260

 Tel : 0-2331-0031-32

 Fax : 0-2331-1061

 E-mail : br13s00@mwa.co.th

Bang Khen Branch Office

3 Chaeng Watthana Road, Anusawaree,
Bangkhen, Bangkok 10220

 Tel : 0-2552-1550-4

 Fax : 0-2521-1176

 E-mail : br16s00@mwa.co.th

Samut Prakan Branch Office

27 Soi Bunsiri 4, Sukhumvit Road,
Mueang, Samut Prakan 10270

 Tel : 0-2384-1411-2

 Fax : 0-2384-3067

 E-mail : br17s00@mwa.co.th

Phasi Charoen Branch Office

454 Kanchanaphisek Road, Bangkhae Nuea,
Bangkhae, Bangkok 10160

 Tel : 0-2455-0055

 Fax : 0-2454-5500

 E-mail : br11s00@mwa.co.th

Phaya Thai Branch Office

1057 Vibhavadi Road, Chatuchak,
Chatuchak, Bangkok 10900

 Tel : 0-2537-8225

 Fax : 0-2537-8227

 E-mail : br03s00@mwa.co.th

Bangkok Noi Branch Office

170 Moo 2 Kanchanaphisek Road,
Plai Bang, Bang Kruai, Nonthaburi 11130

 Tel : 0-2449-0011, 0-2448-0461

 Fax : 0-2449-0065

Service Center 258/4 Soi Charan Sanitwong 30/1,
Ban Chang Lo, Bangkoknoi, Bangkok 10700

 Tel : 0-2411-3117, 0-2411-2240

 Fax : 0-2411-3117

 E-mail : br01s00@mwa.co.th

 Thung Mahamek Branch Office

9/2 Nang Linchi Road, Thungmahamek,
Sathorn, Bangkok 10120

 Tel : 0-2286-0172, 0-2286-0174-5,
0-2286-0177, 0-2286-0179

 Fax : 0-2286-0153

 E-mail : br05s00@mwa.co.th

 Mansri Branch Office

1203 Nakhon Chaisi Road, Samsen Nai,
Phaya Thai, Bangkok 10400

 Tel : 0-2298-6700-24

 Fax : 0-2298-6735

 E-mail : br06s00@mwa.co.th

 Lat Phrao Branch Office

591 Soi Ramkhamhaeng 39 (Tepleela 1),
Ramkhamhaeng Road, Wang Thonglang,
Bangkok 10310

 Tel : 0-2934-4432-6

 Fax : 0-2934-4815

 E-mail : br12s00@mwa.co.th

 Min Buri Branch Office

133 Ramkhamhaeng Road, Saen Saeb,
Minburi, Bangkok 10510

 Tel : 0-2543-6500

 Fax : 0-2543-6630

 E-mail : br53s00@mwa.co.th

 Suvarnabhumi Branch Office

623/1 Luang Phaeng Rd, Thap Yao,
Lat Krabang, Bangkok 10520

 Tel : 0-2171-5455-64

 Fax : 0-2171-5461

 E-mail : br55s00@mwa.co.th

 Taksin Branch Office

71 Rama II Road, Soi 31, Bangmod,
Jomthong, Bangkok 10150

 Tel : 0-2427-6000

 Fax : 0-2427-7772

 E-mail : br02s00@mwa.co.th

 Suksawat Branch Office

71 Rama II Road, Soi 31, Bangmod,
Jomthong, Bangkok 10150

 Tel : 0-2427-7000

 Fax : 0-2427-7772

 E-mail : br14s00@mwa.co.th

 Bang Bua Thong Branch Office

59 Moo 2, Bang Krui-Sai Noi Road,
Sanoeloy, Bangbuathong, Nonthaburi 11110

 Tel : 0-2571-3982-7

 Fax : 0-2571-1743

 E-mail : br54s00@mwa.co.th

 Mahasawat Branch Office

170 Moo 2 Kanchanaphisek Road,
Plai Bang, Bang Krui, Nonthaburi 11130

 Tel : 0-2449-0129

 Fax : 0-2449-0088

 E-mail : br56s00@mwa.co.th

 Nonthaburi Branch Office

282 Nonthaburi Road, Tha Sai, Mueang,
Nonthaburi 11000

 Tel : 0-2589-0035-8

 Fax : 0-2580-5964

 E-mail : br04s00@mwa.co.th



Contact
MWA

Contact MWA

1. The MWA Call Center: providing information, dealing with complaints, receiving applications for services and coordinating with relevant organizations in problem-solving for complaints to the public or customers through the following:

- Hotline 1125, 24 hrs.
- E-mail: mwa1125@mwa.co.th
- Facebook: www.facebook.com/MWATHailand
- Twitter: @MWATHailand
- Website: www.mwa.co.th
- Web Chat: <http://webchat.mwa.co.th/mwacallcenter1125>
- LINE: @MWATHailand

The MWA Call Center is responsible for responding to the following:

1) Water Meter

- Broken meter
- Inaccurate measuring of water meter
- Other issues regarding water meter

2) Service appointment

- Installation/reinstallation of water system
- Water system transfer of ownership
- Withdrawal of water service deposit
- Increase/decrease of the meter size
- Transfer of temporary service to permanent service
- Transfer of permanent service to temporary service

3) Editing consumer information

- Changing type of water service
- Changing billing address
- Editing name and family name of the consumer
- Editing consumer address (original)

4) After service support

- Internal pipe leak detection
- Internal pipe repair
- Water tank cleaning

5) General services

- Registration for SMS text service
- Cancellation of SMS text service
- Other requests
- Comments

6) Requests regarding water bill

7) Suggestion

Once a customer contacts the MWA Call Center, his/her request is recorded in the Customer Relationship Management system (CRM) and a relevant organization is informed in order to take prompt action.

2. Contact MWA via the organization's website (www.mwa.co.th). Electronic services provided via the website include request for an installation, tracking installation status, water bill payment, query for information, filing complaints, e-bill service, e-tax invoice and e-receipt service, and water calculation service.

3. All 18 MWA Branch Offices: providing the following services for customers in area of their responsibilities:

- Request for new connection within one day and cancellation of service
- Change of water meter
- Change of customers' details
- Water meter suspending service
- Taking note of broken/leaking pipeline and proceeding repair
- Water bill payment
- Receiving other bill payment service under the MWA Easy Pay Project including AIS mobile phone payment, KTC credit card payment (10 baht fees for each payment), Land and House Bank PLC's loan payment (free of charge), and electricity bill payment (free of charge)

4. Shopping Mall: at Central Plaza Westgate, Central Plaza Chaengwattana, The Mall Ngamwongwan and The Mall Bangkae provide customers' request services and receive water bill payment.

5. Suksawat Smart Customer Service Center at Phra Pra Daeng District Office and Phra Samut Chedi District Office, Samut Prakan Province provide customers' request services and receive water bill payment.

6. MWA Clean Water Clinic under Water Supply Section, Water Quality Surveillance Division: providing suggestion and information about tap water quality. Tel. 02-981-7321 Fax. 02-981-7313 E-mail: waterclinic@mwa.co.th Facebook: www.facebook.com/mwacleanwater

7. MWA onMobile Application: Allowing the users to apply for new connection; report or send photos of damaged or leaking pipes which can be exactly located by the Application; report abnormal water bills, areas with no running water, low pressure water, cloudy or smelly tap water; the complaints will be sent to relevant work units for further action. In addition, by means of MWA onMobile Application, customers can follow MWA news, check no water areas, contact branch offices, pay for water bill, check water quality, view past water usage records, print out water bills and scan for payment.

Payment Methods

1. MWA Counter Service

at MWA Head Office, 18 branch offices and Special Collection Division

2. 9 MWA “Drive-Through Payment” Service Points

where consumer are allowed to pay the bill without leaving their car:

- MWA Head Office
- Sukhumvit and Phra Khanong branch office
- Taksin and Suksawat branch office
- Nonthaburi branch office
- Bang Khen branch office
- Min Buri branch office
- Prachachuen branch office
- Phaya Thai branch office
- Phasi Charoen branch office

3. Suksawat Smart Customer Service Centers

at Phra Pra Daeng District Office and Phra Samut Chedi District Office provide services for customers' requests and receive water bill payment.

4. Government Center, Nonthaburi :

- Central Plaza Westgate, Floor 1
- The Mall Ngamwongwan, Floor 5
- Central Plaza Chaengwattana, Floor 3

5. Bangkok Express Service :

The Mall Bangkae, Floor 3

6. Payment at MWA Representative

Counter Services :

- Government Savings Bank
- Bank for Agriculture and Agricultural Cooperatives
- Bangkok Bank
- Krung Thai Bank
- Land and House Bank
- Just pay (TOT)
- mPay STATION
- CenPay
- Big C Super Center
- Siam Commercial Bank
- Kasikornbank
- TMB Bank
- Bank of Ayudhya
- Metropolitan Electricity Authority (MEA)
- Pay at Post (Thailand Post)
- True shop
- Counter Service
- Tesco Lotus

7. Transfer Payment via Banks' ATM :

- Government Savings Bank
- Siam Commercial Bank
- Bangkok Bank
- Kasikornbank
- TMB Bank
- Bank of Ayudhya
- Land and House Bank
- Krung Thai Bank

8. Mobile Application :

- MWA onMobile
- Government Savings Bank
- Krung Thai Bank
- TMB Bank
- Kasikornbank
- Siam Commercial Bank
- Thanachart Bank
- mPAY
- True money
- Counter Service
- BluePay
- AirPay
- easyBills

9. Payment by Direct Debit from Bank Account :

- Government Savings Bank
- Bank for Agriculture and Agricultural Cooperatives
- Government Housing Bank
- Krung Thai Bank
- Siam Commercial Bank
- Bangkok Bank
- TISCO Bank
- TMB Bank
- Bank of Ayudhya
- Islamic Bank of Thailand
- Citibank
- Kasikornbank
- CIMB Thai Bank
- Land and House Bank
- HSBC
- United Overseas Bank
- Thanachart Bank
- The Thai Credit Retail Bank

10. Credit Card Payment :

- Siam Commercial Bank
- Kasikornbank
- Bangkok Bank
- Citibank
- United Overseas Bank
- Bank of Ayudhya
- Krungsri First Choice
- Central Credit Card
- Tesco Lotus Visa Card
- abc point

11. Payment via MWA Website : MWA E-Service (<https://eservicesapp.mwa.co.th/>)

- Krung Thai Bank
- Siam Commercial Bank
- Kasikornbank
- TMB Bank
- Bank of Ayudhya

12. The Website of MWA Official Representatives :

- Krung Thai Bank
- Siam Commercial Bank
- Kasikornbank
- TMB Bank
- Bank of Ayudhya
- United Overseas Bank
- Counter Service

13. Automated Bill Payment Kiosk :

- Government Smart Kiosk
- TERMDEE top-up Kiosk



Financial Information

Factors Affecting MWA Financial Status and Performance

In 2019, MWA has revised and adjusted the organization's operation strategies to be able to better respond to external changes and strategic challenges and lead MWA to be a high-performance organization (HPO). The factors that affected the organization's financial status and performance include:

- **Regarding the revenue,** overall, the revenue of the organization increased. Thanks to the income from water bills and the management of the excess liquidity, MWA has earned more profits. Nonetheless, MWA has, recently, faced with a business challenge. The growth of the sales of water supplies has been increased only slowly due to the economic recession. Additionally, MWA has expanded its service to cover the entire urban areas. The organization has been aware of the problem and enhance the operation capacity in associated businesses and performance including water supply service in the border zone between the service areas of MWA and PWA (Provincial Waterworks Authority) to ensure that people in the area were equally accessible to enough clean and safe water supply with the quality in accordance with WHO standard.

- **As for the expenses,** MWA has continuously supplied freshwater to the service area covering three provinces, namely Bangkok, Nonthaburi and Samutprakarn via the organization's network of water pipes. The network has been used for a long time, and pipe leakages were found resulting in a high amount of water loss. Accordingly, there were more expenses on water loss management via the plumbing restoration project to maintain MWA piping system and develop water distribution system and information technology for effective water loss management to be in accordance with the global standard. In addition, the deterioration of untreated water quality caused many more expenses in the water treatment procedure to improve the quality of the water. Nonetheless, MWA has emphasized on managing its assets to effectively enhance the management of the assets and ensure their values according to the concept of the economic value management (EVM). Also, the adoption of cross currency swap approach (CCS) to manage the organization's financial capitals helped reduce risks of impacts caused by currency fluctuation. Meanwhile, an effective planning and management of loans and financial capitals could help in an effective planning of income and expense management and remain adequately liquid to allow the operation to run smoothly. Finally, the successful financial management is a factor that will support the waterworks improvement project to effectively achieve its goal.

To sum up, MWA has gained fairly good business profits with the stable financial status and low debt. The strong financial factor will be an important part that will lead the organization to achieve its strategic objective on ensuring the organization's financial security and sustainability.

Important Financial Information

List	2019	2018	2017
Financial Status (Million Baht)			
• Current Assets	20,751.80	21,561.42	17,343.60
• Total Assets	78,949.19	75,108.52	72,214.86
• Current Liabilities	4,059.65	4,453.44	4,678.43
• Total Liabilities	15,320.10	14,599.20	15,405.81
• Equity	63,629.09	60,509.32	56,809.05
Performance Results (Million Baht)			
• Total Revenues	20,012.75	19,203.00	19,193.17
• Total Expenses	13,009.27	11,683.82	11,624.79
• Net Profit	7,003.48	7,519.18	7,568.38
Financial Ratios			
• Net Profit Margin (%)	35.90	39.99	40.15
• Rate of Return on Assets (%)	8.87	10.01	10.48
• Rate of Return on Equity (%)	11.01	12.43	13.32
• Debt Equity Ratio (Times)	0.24	0.24	0.27
• Current Ratio (Times)	5.11	4.84	3.71
• Average Collection Period (Days)	27	28	27

Capital Structure

Capitals and shareholder structure

Ministry of Finance holds 100 percent of MWA shares with details as follows:

Unit: Million Baht

Items	2019	2018	2017
Initial capital	1,192.71	1,192.71	1,192.71
Capital from the budget plan	7,194.14	7,194.14	7,194.14

Loan Liabilities

Unit: Million Baht

Loan Liabilities	2019	2018	2017
Domestic loans (not guaranteed by Ministry of Finance)	-	-	-
Foreign loans (guaranteed by Ministry of Finance)	402.252	485.979	1,466.555
Total	402.252	485.979	1,466.555

Remittance to Ministry of Finance

Unit: Million Baht

Remittance to Ministry of Finance	2019	2018	2017
Remittance to Ministry of Finance	3,904.00	3,734.00	4,309.98

Approved Budget

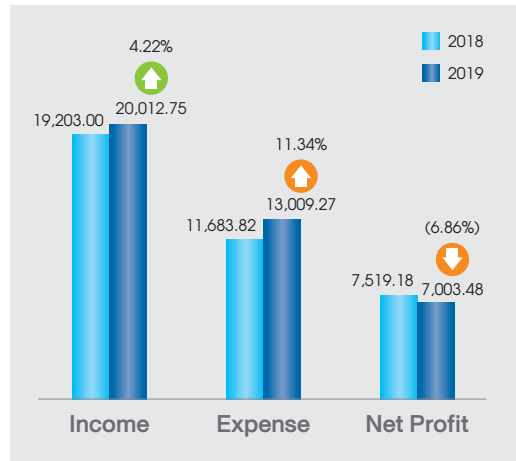
Unit: Million Baht

Approved Budget	2019	2018	2017
Operating Budget	7,820.0	7,600.0	8,011.3
Capital Budget	4,500.0	3,688.0	4,704.9
Total	12,320.0	11,288.0	12,716.2

Financial Status

Analysis

In 2019, MWA business profits were still strong thanks to the higher amount of revenue from the water bill which is the main income of the organization compared to the previous year despite the additional expenses which was not part of regular operations. Accordingly, MWA gained the net profit of 7,003.48 million baht, which was 515.70 million baht lower than the net profit of the previous year.



Performance

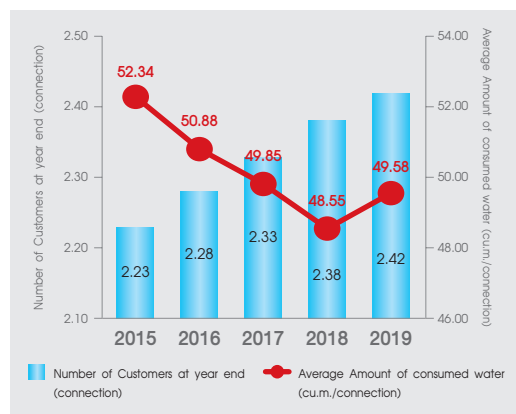
Revenue

MWA's total income was 20,012.75 million baht which was higher than the previous year by 809.75 million baht accounting for 4.22% consisting of:

Unit: Million Baht

List	2019	2018	Increase (Decrease)
Performance Results of Income	19,510.24	18,801.13	709.11
• Water	17,349.01	16,631.31	717.70
• Services	985.15	971.31	13.84
• New Connections	385.91	396.67	(10.76)
• Extra Income	505.60	541.22	(35.62)
• Other Operating Income	284.57	260.62	23.95
Other Income	502.51	401.87	100.64
Total	20,012.75	19,203.00	809.75

- **Income from water bill payment** was 17,349.01 million baht, 717.70 million baht higher than the previous year, due to the continuous growth of the number of water supply users. In addition, the increase in number of tourists and consumers of department stores and hotels as well as the sales of water supply in the seam area between the service area of MWA and PWA contributed to the higher average amount of water consumption, compared to the previous year.



- **Income from water installation** was 10.76 million baht lower than the previous year. This is because most of the new water meters used in 2019 were small with low installation fee, while the number of larger water meters with higher installation fee decreased. The total number of installations in 2019 was 2,092, higher than 2018.

- **Income from secondary services** was 35.62 million baht lower than the previous year which was mainly a result of the decrease in the income from check-up fee, design and supervision fee and after-service fee. However, the income from pipe installation fee for private companies increased in this year.

- **Income from other sources** was 100.64 million baht higher than the previous year which was mainly a result of the interest received, the management of the increasing excess liquidity and construction delay penalty.

Expenses

MWA had a total expense of 13,009.27 million baht, higher than the previous year by 1,325.45 million baht, or 11.34% consisting of:

Unit: Million Baht

List	2019	2018	Increase (Decrease)
Operating Expense	12,943.68	11,635.97	1,307.71
• Raw materials and Supplies	2,312.03	2,183.79	128.24
• Employee Benefits	3,979.34	3,605.28	374.06
• Depreciation and Amortization	4,770.12	4,493.34	276.78
• Other Operating Expenses	1,882.19	1,353.56	528.63
Other Expenses	34.76	7.22	27.54
Financial Costs	30.83	40.63	(9.80)
Total	13,009.27	11,683.82	1,325.45

- **Expenses on raw materials and supplies** were 128.24 million baht higher than the previous year resulting from the electricity bill that was 114.27 million baht higher than the previous year because of the larger amount of water supply produced and the increase in the variable electricity cost compared to the previous year. Additionally, the expense on chemical substances also increased by 14.96 million baht because of the larger amount of water supply produced, compared to the previous year. Also, between March and September 2019, MWA spent on using more chemical substances to rid the amount of seaweed that was above an acceptable level/surveillance indicators despite that the expense on chlorine dropped during the year.

- **Expenses on employee benefits** was 374.06 million baht higher than the previous year due to the higher average compensation, mostly resulting from the adjustment for higher compensation in the event of retirement¹ and the higher salary for employees compared to the previous year.

- **Expenses on depreciation and amortization costs** were 276.78 million baht, resulting from an increase in the asset investment on pipes and water meters to improve the efficiency of service for customers.

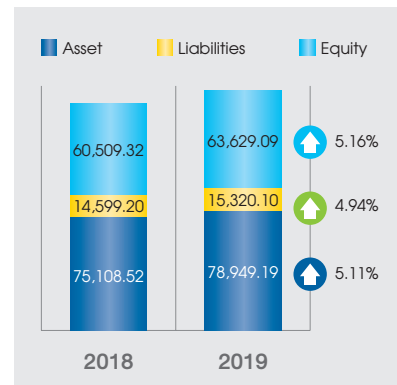
¹ The adjustment for higher compensation in the event of retirement for employees who have worked for the organization for 20 consecutive years. Those employees shall receive no less than 400 days (originally 300 days) of the latest compensation rate. The regulation would be applied to any state enterprises who would retire on 30 September 2019 onward according to the cabinet resolution on 10 September 2019.

- **Expenses on other operations** were 528.63 million baht higher than the previous year, resulting from the organization's payment for administration cost and special compensation with interest according to the court's verdict for the account of 422.07 million baht.²

- **Other expenses and financial capital** were 17.74 million baht higher than those in the previous year mostly due to loss from disposal of assets. However, regarding the financial capital, the amount was 9.8 million baht lower than the previous year since a loan payment was made before its due date on 23 April 2018.

Financial status

The MWA total assets as of 30 September 2019 were equivalent to 78,949.19 million baht, or 3,840.67 million baht higher than the previous year, mostly increasing in long-term investments. The MWA total liabilities were equivalent to 720.90 million baht higher than the previous year due to employee's defined benefit obligation from retirement provision and deferred income regarding pipe installation works. Additionally, the equity was higher than the previous year resulting from the increase in the organization's cumulative profit.



Liquidity

As of 30 September 2019, MWA cash and cash equivalents balance was 600.95 million baht increasing from the previous year by 151.44 million baht with details as follows:

Unit: Million Baht

List	2019	2018	Increase (Decrease)
Net cash flow from operating activities	10,234.15	11,014.75	(780.60)
Net cash flow used in investing activities	(6,065.66)	(6,554.95)	489.29
Net cash flow used in financing activities	(4,017.05)	(4,729.68)	712.63
Net increase (decrease) in cash and cash equivalents	151.44	(269.88)	421.32
Cash and cash equivalents at the beginning of the year	449.51	719.39	(269.88)
Cash and cash equivalents at the end of the year	600.95	449.51	151.44

- **Net cash from operating activities** for 10,234.15 million baht, 780.60 million baht lower than the previous year because of the decrease in net profit and the higher payment to account payable compared to the previous year.

- **Net cash used for investment activities** for 6,065.66 million baht, 489.29 million baht lower than the previous year, resulting mostly from the lower investment on fixed assets for operation.

- **Net cash for financing activities** for 4,017.05 million baht, 712.63 million baht lower than the previous year, resulting from the decrease in loan burden because of the loan payment prior to the due date in the previous year making the loan payment of this year become lower than the previous year by 872.50 million baht.

² The dispute with Thames Water International (Thailand) Co., Ltd. regarding the contract on water loss management

Reports of the Audit Committee

The current MWA Audit committee was appointed in accordance with the MWA Board of Directors' Order No. 5/2562, dated 1 March 2019, consisting of:

- | | |
|---|-----------|
| 1) Asst.Prof. Teekawuth Potapirom | Chairman |
| 2) Mr. Thongplew Kongchan D.Eng | Member |
| 3) Assoc.Prof. Chanin Tinnachote. Ph.D. | Member |
| 4) Assistant Governor (Internal Audit Office) | Secretary |

The previous MWA Audit Committee was appointed according to the MWA Board of Directors' Order No. 2/2560, dated 9 October 2017, holding the position from 5 October 2017 to 6 February 2019, consisting of:

- | | |
|---|-----------|
| 1) Vadm. Nadaecho Kerdchoochuen | Chairman |
| 2) Asst.Prof Teekawuth Potapirom | Member |
| 3) Mr. Thongplew Kongchan D.Eng | Member |
| 4) Assistant Governor (Internal Audit Office) | Secretary |

The MWA Board of Directors has approved to hire a consultant to the Financial Accounting Audit Committee and an internal audit specialist to participate in the meeting to provide knowledge and suggestions for the Audit Committee, consisting of:

- | | |
|-------------------------------|---|
| 1) Mrs. Wilai Chatthanrassami | Consultant to the Financial Accounting
Audit Committee |
| 2) Mr. Pongsak Sangsingkee | Internal Audit Specialist |

In the fiscal year 2019, the Audit Committee organized 10 meetings to discuss and share their opinions with the MWA's senior executives, internal auditors and representatives from Office of the Auditor General of Thailand. The inspection of Audit Committee followed the scope and authority designated by MWA Board of Directors and in accordance with the regulation of Ministry of Finance on the Audit Committee and Internal Audit Unit of State Enterprises, B.E. 2555 (2012), Operation Handbook for the Audit Committee of State Enterprises, Ministry of Finance and Audit Committee Charter. The essence of the practice is as follows:

1. **Report of financial performance** by reviewing the annual financial report of the fiscal year 2019 (between October 2018 and June 2019) (prior to the review process of Office of the Auditor General of Thailand) to ensure that MWA financial report is in accordance with the general accounting standards disclosing appropriate important information including major changes in accounting estimates and information useful for users of financial statement.

2. **MWA Internal Control** is the review of the effectiveness, efficiency, and sufficiency of internal control procedures. The review resulted from the inspection reports of the internal audit office and the representatives of Office to the Auditor General of Thailand. The review included the performance report regarding the Internal Control of the MWA internal control committee together with the significant audit findings and guidances on solutions for the issues to MWA Board of Directors so that the MWA directors and executives adopt an effective and efficient internal control system.

3. **Risk management** was carried out by reviewing the performance report according to the MWA risk management plan of the fiscal year 2019. The risk management of every working unit was monitored to ensure that the adoption of risk management plan could tackle any risks that might affect the achievement of the MWA's goals. Additionally, the committee must regularly review the effectiveness, efficiency, and appropriateness of the risk management plan and give advice regarding risk management to the working team in charge to improve their performance.

4. **Performance regarding relevant laws, rules, regulations and orders** included monitoring, requesting, and discussing with executives as well as reviewing the performance report of the Internal Audit Office to ensure that MWA strictly adhered to relevant laws, rules, regulations and orders.

5. **Governing and improving auditing works** included the performance review of the Internal Audit Office according to the annual checking plan, the review of the audit inspection, and additional advice apart from those given by Internal Audit Office. It also included the monitoring of the improvement process of significant issues, the approval for the Internal Audit Office Charter and an annual audit plan, a review of an annual audit plan and Handbook for Internal Audit, considerations for appropriate human resources and other resources within the Internal Audit unit, appointments, transfers, and credits to employees of the Audit Office as well as supporting internal auditors to develop themselves and gain a vocational certificate on internal audit.

6. **Maintaining the quality of the Audit Committee** included a review of the Audit Committee Charter, the Audit Committee's annual meeting plan and the quarterly report and an annual report of the audit committee performance. Additionally, the Audit Committee had to ensure their performance assessment both individually and as a whole following the best practices of State Enterprise Policy Office (SEPO), Ministry of Finance.

To sum up, in the fiscal year 2019, the audit committee performed their responsibilities quite freely according to duties and responsibilities indicated in the Audit Committee Charter. In the Committee's opinion, MWA had made its financial report showing important and reliable information in accordance with the general accounting standards. In addition, MWA showed its appropriate corporate governance system and risk management system at the acceptable level. Finally, MWA demonstrated its self-sufficient internal control system and accurately operated in accordance with any relevant laws, regulations and conditions.



(Asst.Prof. Teekawuth Potapirom)

Chairman, MWA Audit Committee

Remark : MWA audit committee (according to MWA Board of Directors Order 1/2563 issued on 7 May 2020) approved of the MWA annual financial statement ending on 30 September 2019 (approved by Office of the Auditor General of Thailand) in the meeting 1/2563 on 15 May 2020.

Report on the Board of Directors’ Responsibility for Financial Report

The Board of Directors of the Metropolitan Waterworks Authority (MWA) is responsible for financial statement by directing the preparation of financial statement in accordance with the generally accepted accounting standards. There is an adequate disclosure of significant information in the Notes to the Financial Statement as well as certified by the Office of the Auditor General.

The Board of Directors has appointed the MWA Audit Committee which comprises of Independent Directors to supervise the auditing, the review of the financial statement and the internal control, to ensure the accounting records are correct, fully adequate, and punctual, and to prevent fraud and irregular conduct.

The MWA Board of Directors has considered that the financial statement of the Metropolitan Waterworks Authority reports the financial status, performance results, and changes in equity and cash flow accurately in the subject matters under generally accepted accounting standards.



(Mr. Nisit Jansomwong)

Chairman, MWA Board of Directors



(TRANSLATION)

AUDITOR'S REPORT

To The Board of Directors of Metropolitan Waterworks Authority

Opinion

The State Audit Office of the Kingdom of Thailand has audited the financial statements of Metropolitan Waterworks Authority (MWA) which comprise the statements of financial position as at September 30, 2019, the statements of income, the statements of comprehensive income, the statements of changes in equity and the statements of cash flows for the year then ended, and the notes to the financial statements, including a summary of significant accounting policies.

In the State Audit Office of the Kingdom of Thailand's opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Metropolitan Waterworks Authority as at September 30, 2019, and its financial performance and its cash flows for the year then ended in accordance with Thai Financial Reporting Standards.

Basis for opinion

The State Audit Office of the Kingdom of Thailand conducted the audit in accordance with State Audit Standards and Thai Standards on Auditing. The State Audit Office of the Kingdom of Thailand's responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of the State Audit Office of the Kingdom of Thailand's report. The State Audit Office of the Kingdom of Thailand is independent of the Company in accordance with the ethical requirements set out in the State Audit Standards issued by the State Audit Commission and the Federation of Accounting Professions' Code of Ethics for Professional Accountants that are relevant to the State Audit Office of the Kingdom of Thailand's audit of the financial statements, and has fulfilled other ethical responsibilities in accordance with these requirements. The State Audit Office of the Kingdom of Thailand believes that the audit evidence the State Audit Office of the Kingdom of Thailand has obtained is sufficient and appropriate to provide a basis for the State Audit Office of the Kingdom of Thailand's opinion.

Other information

The management is responsible for the other information. The other information comprises the information included in the annual report, but does not include the financial statements and auditor's report thereon. The annual report is expected to be made available to the State Audit Office of the Kingdom of Thailand after the date of this auditor's report.

The State Audit Office of the Kingdom of Thailand's opinion on the financial statements does not cover the other information and the State Audit Office of the Kingdom of Thailand will not express any form of assurance conclusion thereon.

In connection with the audit of the financial statements, the State Audit Office of the Kingdom of Thailand's responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the financial statements or the State Audit Office of the Kingdom of Thailand's knowledge obtained in the audit, or otherwise appears to be materially misstated.

When the State Audit Office of the Kingdom of Thailand reads the annual report, if the State Audit Office of the Kingdom of Thailand concludes that there is a material misstatement therein, the State Audit Office of the Kingdom of Thailand is required to communicate the matter to those charged with governance.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Thai Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of the financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Company's financial reporting process.

Auditor's Responsibility for the Financial Statements

The State Audit Office of the Kingdom of Thailand's objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes the State Audit Office of the Kingdom of Thailand's opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with State Audit Standards and Thai Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with State Audit Standards and Thai Standards on Auditing, the State Audit Office of the Kingdom of Thailand exercises professional judgment and maintain professional skepticism throughout the audit. the State Audit Office of the Kingdom of Thailand also :

- Identifies and assesses the risks of material misstatement of the financial statements, whether due to fraud or error, designs and performs audit procedures responsive to those risks, and obtains audit evidence that is sufficient and appropriate to provide a basis for the State Audit Office of the Kingdom of Thailand's opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtains an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluates the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Concludes on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If the State Audit Office of the Kingdom of Thailand concludes that a material uncertainty exists, the State Audit Office of the Kingdom of Thailand is required to draw attention in the auditor's report of the State Audit Office of the Kingdom of Thailand to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify the State Audit Office of the Kingdom of Thailand's opinion. The State Audit Office of the Kingdom of Thailand's conclusions are based on the audit evidence obtained up to the date of the auditor's report of the State Audit Office of the Kingdom of Thailand. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluates the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

The State Audit Office of the Kingdom of Thailand communicates with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that the State Audit Office of the Kingdom of Thailand identifies during the State Audit Office of the Kingdom of Thailand's audit.

(Signed) *Chittina Siriwatcharakul*

(Mrs. Chittina Siriwatcharakul)

Director of Financial and Procurement Audit Office No.17

(Signed) *Pranee Kirirat*

(Mrs. Pranee Kirirat)

State Auditor, Senior Professional Level

State Audit Office of the Kingdom of Thailand

February 27, 2020

Financial Statements and Notes to the Financial Statements

METROPOLITAN WATERWORKS AUTHORITY
STATEMENTS OF FINANCIAL POSITION
AS AT SEPTEMBER 30, 2019

	<u>Notes</u>	<u>2019</u>	<u>2018</u>
ASSETS			
Current assets			
Cash and cash equivalents	4.2 , 6.1	600,954,953	449,514,446
Current investments	6.2	18,283,890,000	19,528,862,416
Trade accounts receivable	4.3 , 6.3	551,193,205	504,828,017
Accrued revenue of water sales, meter fees and raw waters	6.4	852,690,557	850,632,734
Inventories and supplies	4.4 , 6.5	211,954,965	132,132,181
Other current assets	6.6	251,118,331	95,452,916
Total current assets		<u>20,751,802,011</u>	<u>21,561,422,710</u>
Non-current assets			
Long-term Investment		4,850,000,000	150,000,000
Property, plant and equipment	4.5 , 6.7	46,913,635,425	47,013,811,035
Intangible assets	4.6 , 6.8	170,420,703	178,759,879
Works under construction	4.7 , 6.9	5,975,227,562	5,922,754,004
Advance payment	6.10	244,110,138	238,088,969
Other non-current assets		43,990,461	43,680,072
Total non-current assets		<u>58,197,384,289</u>	<u>53,547,093,959</u>
Total assets		<u><u>78,949,186,300</u></u>	<u><u>75,108,516,669</u></u>

The accompanying notes are an integral part of these financial statements.

METROPOLITAN WATERWORKS AUTHORITY
STATEMENTS OF FINANCIAL POSITION
AS AT SEPTEMBER 30, 2019

	<u>Notes</u>	<u>2019</u>	<u>2018</u>
LIABILITIES AND EQUITY			
Current liabilities			
Trade accounts payable		1,087,065,024	1,037,874,870
Current portion of long-term loans	6.11	80,450,437	80,996,511
Accrual remittance to the Ministry of Finance	6.12	1,469,300,000	1,875,000,000
Other current liabilities	6.13	1,422,833,417	1,459,564,626
Total current liabilities		4,059,648,878	4,453,436,007
Non-current liabilities			
Long-term loans	6.11	321,801,747	404,982,555
Employee benefit obligations	6.14	2,471,480,146	1,661,351,966
Customers' guarantee deposits		1,699,691,640	1,667,973,976
Deferred revenues	6.15	6,295,739,938	5,975,458,977
Government grants	6.16	110,952,931	125,837,780
Other non-current liabilities	6.17	360,785,899	310,153,768
Total non-current liabilities		11,260,452,301	10,145,759,022
Total liabilities		15,320,101,179	14,599,195,029
Equity			
Capital	6.18	8,386,847,139	8,386,847,139
Unappropriated retained earnings		55,242,237,982	52,122,474,501
Total equity		63,629,085,121	60,509,321,640
Total liabilities and equity		78,949,186,300	75,108,516,669

The accompanying notes are an integral part of these financial statements.

(Signed) *Prinya Yamasamit*

(Mr. Prinya Yamasamit)

Governor

(Signed) *Pawnthip Dinakara Na Ayudhya*

(Mrs. Pawnthip Dinakara Na Ayudhya)

Director of Accounting Department

METROPOLITAN WATERWORKS AUTHORITY
STATEMENTS OF INCOME
FOR THE YEARS ENDED SEPTEMBER 30, 2019

		Unit : Baht	
	<u>Notes</u>	<u>2019</u>	<u>2018</u>
Operating revenues			
Water sales		17,349,013,230	16,631,309,160
Water meter fees		985,147,825	971,315,864
Tab water connection fees		385,907,904	396,667,294
Work contract revenues		505,602,663	541,218,819
Other operating income		284,570,018	260,620,243
Total operating revenues		19,510,241,640	18,801,131,380
Operating expenses			
Changes in inventories of finished goods and work in progress		(172,797)	82,571
Work performed by the entity and capitalized		(50,300,893)	(45,186,303)
Raw materials and consumables used	6.19	2,312,031,779	2,183,794,737
Directors remuneration	6.20	23,344,238	18,063,166
Employee benefit expenses		3,979,335,228	3,605,277,274
Depreciation and amortization expenses		4,770,122,620	4,493,335,261
Other operating expenses	6.21	1,909,322,563	1,380,600,398
Total operating expenses		12,943,682,738	11,635,967,104
Profit from operating		6,566,558,902	7,165,164,276
Other revenues and expenses			
Interest income		389,434,677	282,117,472
Other revenues		113,078,301	119,751,455
Other expenses		(36,698,328)	(25,972,853)
Financial costs		(30,830,044)	(40,633,470)
Gains (losses) on foreign exchange rate	6.22	1,941,503	18,750,605
Total other revenues and expenses		436,926,109	354,013,209
Profit for the year		7,003,485,011	7,519,177,485

The accompanying notes are an integral part of these financial statements.

METROPOLITAN WATERWORKS AUTHORITY
STATEMENTS OF COMPREHENSIVE INCOME
FOR THE YEARS ENDED SEPTEMBER 30, 2019

		Unit : Baht	
	<u>Note</u>	<u>2019</u>	<u>2018</u>
Profit for the year		7,003,485,011	7,519,177,485
Other comprehensive income			
Items that will not be reclassified to profit or loss in subsequent periods			
Actuarial Gains (Losses)	6.14	(385,421,530)	37,452,088
Total comprehensive income for the year		<u>6,618,063,481</u>	<u>7,556,629,573</u>

The accompanying notes are an integral part of these financial statements.

METROPOLITAN WATERWORKS AUTHORITY
STATEMENTS OF CHANGES IN EQUITY
FOR THE YEARS ENDED SEPTEMBER 30, 2019

Unit : Baht

	Initial Capital	Government Budget	Total Capital	Unappropriated retained earnings	Total equity
Balance as at October 1, 2017	1,192,708,301	7,194,138,838	8,386,847,139	50,645,007,872	59,031,855,011
The effect of changes in accounting errors	-	-	-	(2,310,162,944)	(2,310,162,944)
Balance after Adjustment	1,192,708,301	7,194,138,838	8,386,847,139	48,334,844,928	56,721,692,067
Remittance to Ministry of Finance	-	-	-	(3,769,000,000)	(3,769,000,000)
Total comprehensive income for the year	-	-	-	7,556,629,573	7,556,629,573
Balance as at September 30, 2018	1,192,708,301	7,194,138,838	8,386,847,139	52,122,474,501	60,509,321,640
Balance as at October 1, 2018	1,192,708,301	7,194,138,838	8,386,847,139	52,122,474,501	60,509,321,640
Remittance to Ministry of Finance	-	-	-	(3,498,300,000)	(3,498,300,000)
Total comprehensive income for the year	-	-	-	6,618,063,481	6,618,063,481
Balance as at September 30, 2019	1,192,708,301	7,194,138,838	8,386,847,139	55,242,237,982	63,629,085,121

The accompanying notes are an integral part of these financial statements.

METROPOLITAN WATERWORKS AUTHORITY
STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED SEPTEMBER 30, 2019

	<u>2019</u>	Unit : Baht <u>2018</u> (Restated)
Cash flows from operating activities :		
Profit for the year	7,003,485,011	7,519,177,485
Adjustment of net income to cash received (paid)		
From operating activities		
Depreciation	4,682,792,610	4,429,164,614
Amortization - intangible assests	87,275,498	64,114,613
Amortization	54,512	56,034
Doubtful accounts	2,820,328	3,051,830
(Gains) losses on foreign exchange rate	127,977	(7,703,114)
(Gains) losses from disposal of assets	22,902,412	(15,387,229)
Gains from disposal of obsolete materials and supplies	(8,754,666)	(20,953,744)
Financial costs	30,830,044	40,633,470
Interest income	(389,434,677)	(282,117,472)
Revenues from donation assets	(2,975,857)	(3,124,090)
Revenues from tab water connection fees	(369,533,763)	(380,348,499)
Revenues from work contract revenues	(471,075,832)	(440,567,096)
Provision for employee benefit obligations	554,924,831	197,613,305
Non other operating expenses	(203,336)	-
Operating profit before changes in operating assets and liabilities	11,143,235,092	11,103,610,107
Decrease (increase) in operating assets		
Trade accounts receivable	(48,972,206)	(14,810,312)
Accrued revenue of water sales, meter fees and raw waters	(2,057,823)	3,090,672
Inventories and supplies	76,257,205	185,303,479
Other current assets	2,392,094	(233,612)
Other non-current assets	(578,211)	233,001
Increase (decrease) in operating liabilities		
Trade accounts payable	(2,070,590,639)	(1,157,332,482)
Other current liabilities	(27,927,509)	47,882,371
Employee benefits paid	(130,218,182)	(118,635,506)
Customers' guarantee deposits	31,717,664	34,123,758
Deferred revenues	1,159,862,395	884,027,396
Government grants	50,399,645	83,945,678
Other non-current liabilities	50,632,131	(40,095,457)
Bonus paid to Board of Directors and Employees from last year	-	3,647,290
Net cash from operating activities	<u>10,234,151,656</u>	<u>11,014,756,383</u>

The accompanying notes are an integral part of these financial statements.

METROPOLITAN WATERWORKS AUTHORITY
STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED SEPTEMBER 30, 2019

	<u>2019</u>	Unit : Baht <u>2018</u> (Restated)
Cash flows from investing activities		
Current investment increase (decrease)	1,244,972,416	(4,509,682,479)
Long - term investment increase (decrease)	(4,700,000,000)	970,000,000
Interest received	231,377,169	268,354,011
Proceeds from disposals of property, plant, and equipment	30,754,091	49,944,608
Proceeds from disposal of obsolete materials and supplies	12,832,747	20,953,744
Payments of fixed assets acquisition	(2,885,597,203)	(3,354,523,810)
Net cash used in investing activities	(6,065,660,780)	(6,554,953,926)
Cash flows from financing activities		
Repayment on borrowing	(81,132,469)	(953,629,009)
Interest paid	(31,917,900)	(42,051,756)
Remittance to Ministry of Finance	(3,904,000,000)	(3,734,000,000)
Net cash used in financing activities	(4,017,050,369)	(4,729,680,765)
Net increase(decrease) in cash and cash equivalents	151,440,507	(269,878,308)
Cash and cash equivalents at the beginning of the year	449,514,446	719,392,754
Cash and cash equivalents at the ending of the year	600,954,953	449,514,446
Supplementary cash flow information		
Invested in fixed assets on payables	379,659,506	355,216,308

The accompanying notes are an integral part of these financial statements.

METROPOLITAN WATERWORKS AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEARS ENDED SEPTEMBER 30, 2019

1. GENERAL INFORMATION

Established and Objective

Metropolitan Waterworks Authority (MWA) is the state enterprise under the Metropolitan Waterworks Authority Act, B.E. 2510 (1967) and its amendment with objectives as follows,

1.1 To survey and provide raw water sources and acquire raw water for use in the waterworks.

1.2 To produce, supply and distribute treated water in the Bangkok Metropolitan, Nonthaburi and Samut Prakan provinces and control the standard of the private waterworks system in such areas.

1.3 To engage in other related business or beneficial to MWA.

The head office is located at 400 Prachachuen Road, Laksi, Bangkok, 10210

2. BASIS OF PREPARATION AND PRESENTATION OF THE FINANCIAL STATEMENTS

The financial statements have been prepared in accordance with Thai Generally Accepted Accounting Principles under the Accounting Act, B.E.2543 being these Thai Financial Reporting Standards issued under the Accounting Profession Act, B.E. 2547 and presents its financial statements in compliance with the notification of the Department of Business Development “Definition of the abbreviated components required in the financial statements” B.E. 2559.

Preparation of financial statements in accordance with Thai Financial Reporting Standards, Management is required to use estimates and assumptions that affect income, expenditure, assets and liabilities for the purpose of determining the value of assets, liabilities as well as contingent liabilities. For that reason the result of the transactions when actually happened therefore may differ from the estimates.

3. NEW FINANCIAL REPORTING STANDARDS

3.1 Thai Financial Reporting Standards that became effective in the current year

MWA has adopted the revised and new financial reporting standards issued by the Federation of Accounting Professions which become effective for fiscal years beginning on or after 1 January 2018. These financial reporting standards were aimed at alignment with the corresponding International Financial Reporting Standards, with most of the changes directed towards revision of wording and terminology, and provision of interpretations and accounting guidance to users of standards. The adoption of these financial reporting standards does not have any significant impact on the financial statements.

3.2 Thai Financial Reporting Standards not yet effective

The Federation of Accounting Professions issued a number of the revised (revised 2018) which is effective for fiscal years beginning on or after 1 January 2019. These financial reporting standards were aimed at alignment with the corresponding International Financial Reporting Standards. The MWA's management believes that the revised and new financial reporting standards and accounting treatment guidance will not have any significant impact on the financial statements when it is initially applied.

4. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

4.1 REVENUES AND EXPENSES RECOGNITION are recognized on accrual basis.

4.2 CASH AND CASH EQUIVALENTS

Cash and cash equivalents comprise cash on hand, deposits held at call with banks but do not include deposits with banks which are held to maturity, and other short-term highly liquid investments with maturities of three months or less from the date of acquisition and without restriction of use and that are subject to an insignificant risk of change in value.

4.3 TRADE ACCOUNTS RECEIVABLE AND ALLOWANCE FOR DOUBTFUL ACCOUNTS

Trade Accounts receivable are stated at original invoice amount less allowance for doubtful accounts. Allowance for doubtful accounts computed from percentage of the outstanding balance of trade accounts receivable except trade accounts receivable from government agencies and state enterprises, which is overdue more than 6 months from the date of the debt due. The estimation has been based on the Ministry of Finance regulation regarding the accounting and finance of state enterprises B.E. 2548 as follow:

<u>Outstanding period</u>	<u>Percentage of Allowance for Doubtful Accounts</u>
Over 6 months - 1 Year	50
Over 1 Year	100

4.4 INVENTORIES

Inventories are valued at the lower of cost price or net realizable value, Consist of:

4.4.1 Materials and supplies use in MWA's operation such as pipes, water meter and chemical are valued at cost moving average method.

For disposal obsolete materials, materials awaiting for checking and material awaiting to exchange will have an allowance for loss with the same amount.

Obsolete materials by dismantling of assets valued at book values.

4.4.2 Finished Goods comprises of drinkable bottle cost moving average method.

4.5 PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment are stated at cost on the date of acquisition or the completion of constructions, less accumulated depreciation. The cost of assets includes the acquisition price and other necessary expenses in making them ready to operate.

Depreciation of plant and equipment is calculated by reference to their costs on a straight-line basis over the estimated useful lives as follows:

	<u>Useful lives (Years)</u>
Land improvement	30
Building and factory	30
Machinery and equipment	5, 7, 10, 20, 25
Pipe and tunnel	10, 15, 25, 35
Meter	5, 8
Office equipments	5
Vehicles	5, 8

Donated assets recorded with deferred revenue and recognized to revenue throughout the useful lives.

4.6 INTANGIBLE ASSETS

Intangible assets are the right to use the digital data map and the computer software presented at cost deducted by accumulated amortization expense. Amortization is charged to the income statement on a straight-line basis according to the 5-20 years estimated useful life of assets.

4.7 WORKS UNDER CONSTRUCTION

All costs related directly to qualifying assets, and its assets under construction are recorded as works under construction. When the construction is completed and prepare the assets for its intended use, its cost will be transferred to property, plant and equipment.

4.8 BORROWING COSTS

Borrowing costs are interest expense, finance charges and exchange differences arising from foreign currency borrowings to the extent that they are regarded as an adjustment to interest costs, which related to qualifying assets, and its assets under construction less any income earned on the temporary investment of such borrowings are capitalized as part of the constructions cost. When constructions are completed, such borrowing costs will be recorded as the expenses.

4.9 FOREIGN CURRENCY TRANSACTIONS

Transactions in foreign currencies are translated into Thai Baht at the exchange rates prevailing at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies at the end of reporting period are translated into Thai Baht at the exchange rates prevailing at that dates as referred to the average buying or selling rate notified by the Bank of Thailand. Foreign exchange gains and losses resulting from the currency adjustment are recognized as revenue and expense.

4.10 EMPLOYEE BENEFITS

Recognition and measurement

4.10.1 Short-term employee benefits are recognized in profit and loss as expenses when incurred.

4.10.2 Post-employment benefits

Defined contribution plans

MWA and its employees have established MWA provident fund in accordance with the Provident Fund Act B.E. 2530 (1987) and registered on June 2, 1997.

The fund is separated from assets of MWA and managed by asset management company and will be paid to employees upon termination of employment in accordance with the rules of the fund.

The MWA contributes to the fund on a monthly basis at a rate of 9% of salaries for members having 1-10 years of service, 10% for members having 11-20 years of service and 11 % for members having more than 20 years of service. Contributions are recognized in profit and loss as expenses when incurred.

Defined benefit plans comprised of 4 projects as follows:

1. The pension fund MWA established MWA employee pension fund on October 28, 1976 with the objective of helping the employees in the case of vacating office without fault equal to the product of working age calculated annually by the last month's salary. MWA contribution to the fund on a monthly basis at the rate of 10% of salary of MWA pension fund members.

2. The remuneration on retirement preferences is Employee benefits are notification of State Enterprise Labor Relations Commission's minimum standards of employment conditions in state-owned enterprises, 2010. Employee retired which work more than 15 years. Benefits are equal to the wage rate of the last 300 days.

On September 25, 2019, the State Enterprise Labor Relations Committee announced The Government Gazette, the minimum standard of employment conditions in state enterprises (Issue 4), issued with the approval of the Cabinet on September 10, 2019 which stipulates that employees who have worked continuously for 20 years or more to receive benefits not less than the last 400 days' wage rate. Which is effective for retiring employees from September 30, 2019 onwards. The said change will cause MWA to increase its employee benefit obligations of approximately 389.41 million baht. MWA will record the impact of such changes by recognizing past service costs of 355.17 million baht as Immediate Expenses in the Income Statement for the year 2019.

3. The annual leave project that has not been exercised is employee benefits retirement and the annual leave is not exercised. Benefits are equal to the number of days that have not been exercised. Up to 45 days of the final wage rate.

4. The project of the awards age 60 years or retirement is a project of the awards when employees age 60 years or retirement.

The obligation under the defined benefit plan is determined based on actuarial techniques, using the Projected Unit Credit Method, in order to determine present value of the obligation, current service cost and past service cost. These are recognized as a liability in statements of financial position and expenses in profit and loss.

Actuarial gains and losses arising from post-employment benefits are recognized in statements of comprehensive income when incurred.

4.10.3 Other long-term employee benefits plan is a project of the awards when employees work 25 years.

The obligation under the defined benefit plan is determined based on actuarial techniques, using the Projected Unit Credit Method, in order to determine present value of the obligation, current service cost and past service cost. These are recognized as a liability in statements of financial position. Expenses and actuarial gains and losses arising from post-employment benefits are recognized in profit and loss when incurred.

5. SIGNIFICANT ACCOUNTING JUDGEMENTS AND ESTIMATES

The preparation of financial statement in conformity with generally accepted accounting principles requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income, and expenses. Actual results may differ from these estimates. The significant judgements and estimate is as follow:

5.1 PROPERTY, PLANT, EQUIPMENT AND DEPRECIATION

In determining depreciation of plant and equipment, the management is required to make estimates of the useful lives and residual value of the plant and equipment and to review estimate useful lives when there are any changes.

5.2 ACCRUED REVENUE OF WATER SALES, METER FEES

Unbilled revenue was calculated from water consumption from the last reading date to reporting date by estimated from water consumption average per day of the latest month to the following month backwards 3 years.

5.3 LITIGATION

MWA has contingent liabilities as a result of litigation. The management has used judgment to assess of the results of the litigation and believes that no loss will result. Therefore no contingent liabilities are recorded as at the reporting date.

6. ADDITIONAL DATA

6.1 CASH AND CASH EQUIVALENTS comprised of:

	Unit : Million Baht	
	<u>2019</u>	<u>2018</u>
Cash on hand	2.38	1.85
Savings and current account	586.97	418.84
Cash in transit	11.60	28.82
Total	<u>600.95</u>	<u>449.51</u>

6.2 CURRENT INVESTMENTS comprised of:

	Unit : Million Baht	
	<u>2019</u>	<u>2018</u>
Fixed deposit account (over 3 months)	18,283.89	16,531.29
Government securities purchased under resale agreements (over 3 months)	-	2,997.57
Total	18,283.89	19,528.86

6.3 TRADE ACCOUNTS RECEIVABLE comprised of:

	Unit : Million Baht	
	<u>2019</u>	<u>2018</u>
Water utilities bills receivable	592.85	542.04
<u>Less</u> Undue output taxes water utilities	(37.97)	(35.14)
Total water utilities bills receivable	554.88	506.90
Water connection fees receivable	5.04	6.70
Total trade accounts receivable	559.92	513.60
<u>Less</u> allowance for doubtful accounts	(8.73)	(8.77)
Total	551.19	504.83

As at September 30, 2019 and 2018, the water utility bills receivable were shown as follows:

	2019			2018		
<u>Aging period</u>	<u>Private sector</u>	<u>Public sector</u>	<u>Total</u>	<u>Private sector</u>	<u>Public sector</u>	<u>Total</u>
1 - 6 months	214.76	286.12	500.88	210.70	258.17	468.87
Over 6 months – 1 year	1.74	17.03	18.77	1.77	10.03	11.80
Over 1 year	7.82	27.41	35.23	7.85	18.38	26.23
Total	224.32	330.56	554.88	220.32	286.58	506.90

6.4 ACCRUED REVENUE OF WATER SALES, METER FEES comprised of:

	Unit : Million Baht	
	<u>2019</u>	<u>2018</u>
Private sector	745.39	747.00
Public sector	107.30	103.63
Total	852.69	850.63

6.5 INVENTORIES comprised of:

Unit : Million Baht		
	2019	2018
Finish goods	0.55	0.38
Materials and Supplies	210.23	134.08
Material in transit	1.17	1.63
<u>Less</u> allowance for obsolete inventories	-	(3.96)
Total	<u>211.95</u>	<u>132.13</u>

6.6 OTHER CURRENT ASSETS comprised of:

Unit : Million Baht		
	2019	2018
Accrued interest receivable	249.38	91.32
Prepaid expense	0.16	1.50
Other assets	1.58	2.63
Total	<u>251.12</u>	<u>95.45</u>

6.7 PROPERTY, PLANT AND EQUIPMENT details as follows:

Unit : Million baht									
	2019								
	Cost				Accumulated Depreciation			Property, Plant	
	Oct 1, 2018	Additions	Write off	Sep 30, 2019	Oct 1, 2018	Depreciation	Write off	Sep 30, 2019	and Equipment
									Sep 30, 2019
Land	4,284.28	3.50	-	4,287.78	-	-	-	-	4,287.78
Building and improvements	19,415.83	129.86	(12.91)	19,532.78	12,401.07	482.47	(10.00)	12,873.54	6,659.24
Machineries and equipments	11,659.20	349.87	(114.41)	11,894.66	8,913.81	484.76	(111.98)	9,286.59	2,608.07
Pipes	87,643.54	3,395.35	(295.15)	90,743.74	57,351.84	3,057.71	(276.21)	60,133.34	30,610.40
Meters	5,645.34	409.90	(281.37)	5,773.87	3,485.46	391.53	(237.44)	3,639.55	2,134.32
Office - equipments	1,934.87	343.29	(86.69)	2,191.47	1,525.60	248.96	(86.65)	1,687.91	503.56
Vehicles and transport	352.52	19.54	(30.09)	341.97	243.99	17.36	(29.65)	231.70	110.27
Total	130,935.58	4,651.31	(820.62)	134,766.27	83,921.77	4,682.79	(751.93)	87,852.63	46,913.64

Property, plant and equipment, amounted to Baht 134,766.27 million, as at September 30, 2019 included fully depreciation assets Baht 37,135.70 million, which have the carrying amount Baht 139.04 million.

Unit : Million baht

	2018								
	Cost				Accumulated Depreciation				Property, Plant
	Oct 1, 2017	Additions	Write off	Sep 30, 2018	Oct 1, 2017	Depreciation	Write off	Sep 30, 2018	and Equipment Sep 30, 2018
Land	4,284.28	-	-	4,284.28	-	-	-	-	4,284.28
Building and improvements	19,383.04	42.38	(9.59)	19,415.83	11,939.64	470.41	(8.98)	12,401.07	7,014.76
Machineries and equipments	11,422.35	236.85	-	11,659.20	8,432.14	481.67	-	8,913.81	2,745.39
Pipes	85,152.09	2,650.08	(158.63)	87,643.54	54,641.59	2,868.34	(158.09)	57,351.84	30,291.70
Meters	5,349.38	464.65	(168.69)	5,645.34	3,254.29	379.74	(148.57)	3,485.46	2,159.88
Office - equipments	1,808.41	129.13	(2.67)	1,934.87	1,317.28	210.99	(2.67)	1,525.60	409.27
Vehicles and transport	307.01	45.51	-	352.52	225.98	18.01	-	243.99	108.53
Total	127,706.56	3,568.60	(339.58)	130,935.58	79,810.92	4,429.16	(318.31)	83,921.77	47,013.81

Property, plant and equipment, amounted to Baht 130,935.58 million, as at September 30, 2018, included fully depreciation assets Baht 33,689.97 million, which have the carrying amount Baht 115.98 million.

6.8 INTANGIBLE ASSETS

Intangible assets presented at cost deduct by accumulated amortization expense. Amortization is calculated by straight-line method basis according to estimated useful life of assets, details as follows:

Unit : Million baht

	2019								Intangible assets Sep 30, 2019
	Cost				Accumulated Depreciation				
	Oct 1, 2018	Additions	Write off	Sep 30, 2019	Oct 1, 2018	Amortization	Write off	Sep 30, 2019	
Rights to use the									
digital data map	215.68	4.00	(9.79)	209.89	171.02	8.86	(9.79)	170.09	39.80
Software	1,170.43	74.93	(84.46)	1,160.90	1,036.33	78.41	(84.46)	1,030.28	130.62
Total	1,386.11	78.93	(94.25)	1,370.79	1,207.35	87.27	(94.25)	1,200.37	170.42

Unit : Million baht

	2018								Intangible assets Sep 30, 2018
	Cost				Accumulated Depreciation				
	Oct 1, 2017	Additions	Write off	Sep 30, 2018	Oct 1, 2017	Amortization	Write off	Sep 30, 2018	
Rights to use the									
digital data map	215.68	-	-	215.68	162.65	8.37	-	171.02	44.66
Software	1,163.92	6.51	-	1,170.43	980.59	55.74	-	1,036.33	134.10
Total	1,379.60	6.51	-	1,386.11	1,143.24	64.11	-	1,207.35	178.76

6.9 ASSETS UNDER CONSTRUCTION details as follows:

Unit : Million baht					
2019					
	<u>Oct 1, 2018</u>	<u>Additions</u>	<u>Borrowing cost</u>	<u>Transferred</u>	<u>Sep 30, 2019</u>
				<u>to assets</u>	
The Seventh Bangkok water Supply Improvement Project	431.51	76.97	-	(375.76)	132.72
The Eighth Bangkok water Supply Improvement Project	704.36	11.8	-	(293.25)	422.91
The Ninth Bangkok water Supply Improvement Project	330.48	387.12	-	(120.73)	596.87
Normal Capital Expenditure	4,456.40	4,167.77	-	(3,801.44)	4,822.73
Total	<u>5,922.75</u>	<u>4,643.66</u>	<u>-</u>	<u>(4,591.18)</u>	<u>5,975.23</u>

Unit : Million baht					
2018					
	<u>Oct 1, 2017</u>	<u>Additions</u>	<u>Borrowing cost</u>	<u>Transferred</u>	<u>Sep 30, 2018</u>
				<u>to assets</u>	
The Seventh Bangkok water Supply Improvement Project	321.74	118.83	-	(9.06)	431.51
The Eighth Bangkok water Supply Improvement Project	676.42	28.97	-	(1.03)	704.36
The Ninth Bangkok water Supply Improvement Project	42.32	306.91	-	(18.75)	330.48
Normal Capital Expenditure	4,348.76	3,245.48	-	(3,137.84)	4,456.40
Total	<u>5,389.24</u>	<u>3,700.19</u>	<u>-</u>	<u>(3,166.68)</u>	<u>5,922.75</u>

6.10 Advance Payment

Advance payment as at September 30, 2019 and 2018 amounting to Baht 244.11 million and Baht 238.09 Million, respectively have paid according to the conditions in the agreement. The contractor has to submit Thai Government's bond or a guarantee issued by a local bank in accordance with Rules of Metropolitan Waterworks Authority (Volume 100) on Procurement B.E.2537 (1994) and Government Procurement and Supplies Management Act B.E. 2560 (2017)

Unit : Million baht

BOT average selling Foreign Exchange Rate
As of Sep 30, 2019 1 JPY = 0.287284 THB
As of Sep 28, 2018 1 JPY = 0.289234 THB

Movements in the long-term loans account are summarized below;

	Unit : Million baht	
	<u>Foreign</u> <u>currency</u>	<u>Thai Baht</u> <u>equivalent</u>
<u>Japanese Yen currency</u>		
Balance as at October 1, 2018	1,680.23	485.98
Gain on foreign exchange rate	-	(2.41)
Repayment	(280.04)	(81.32)
Balance as at September 30, 2019	<u>1,400.19</u>	<u>402.25</u>

6.12 ACCRUED REMITTANCE TO THE MINISTRY OF FINANCE

In this fiscal year, the Ministry of Finance has prescribed MWA to deliver a remittance to the Ministry of Finance 45% of the net income before provision of bonus expense, which delivering twice a year.

Movements in the accrual remittance to the Ministry of Finance account are summarized below;

	Unit : Million Baht	
	<u>2019</u>	<u>2018</u>
Balance as at October 1	1,875.00	1,749.00
Increase during the period		
- Additional of the year 2017	-	91.00
- The first half of the year 2018	-	1,894.00
- The second half of the year 2018	-	1,875.00
- The first half of the year 2019	2,029.00	-
- The second half of the year 2019	1,469.30	-
Remittance to the Ministry of Finance		
- The second half of the year 2017	-	(1,749.00)
- Additional of the year 2017	-	(91.00)
- The first half of the year 2018	-	(1,894.00)
- The second half of the year 2018	(1,875.00)	-
- The first half of the year 2019	(2,029.00)	-
Balance as at September 30	<u>1,469.30</u>	<u>1,875.00</u>

The outstanding balance of remittance to the Ministry of Finance as of the second half of the year 2019 amount Baht 1,469.30 million.

6.13 OTHER CURRENT LIABILITIES comprised of:

	Unit : Million baht	
	2019	2018
Accrued interest payables	0.81	1.90
Accrued public utilities	118.06	116.78
Accrued expenses	68.42	20.00
Accrued expense on value added taxes	52.81	69.99
Accrued withholding taxes	16.76	9.94
Accrued bonus expense	766.00	855.74
Accrued raw water	23.43	21.88
Unearned income	7.22	5.49
Cross currency swap obligation	76.17	87.91
Outstanding cheques	16.11	25.53
Other liabilities	277.04	244.40
Total	1,422.83	1,459.56

6.14 EMPLOYEE BENEFIT OBLIGATIONS

The MWA's liability for post-employment benefits is recognized in the statements of financial position, as follows:

	Unit : Million baht						
	2019					Other Long-term	
	Post-Employment Benefits					Employee Benefits	
	Staff	Legal	Unused	Retirement	Total	25 years	Total
	Pension	severance	vacation	award		long-	
	fund	plan	plan			service	
						award	
At October 1, 2018	1,010.60	1,140.42	169.92	114.04	2,434.98	53.95	2,488.93
Past service cost	-	355.17	-	-	355.17	-	355.17
Service cost	37.05	99.42	10.65	6.74	153.86	3.66	157.52
Interest cost	13.05	38.09	4.14	2.38	57.66	1.03	58.69
Benefits paid	(107.46)	(72.68)	(10.75)	(5.13)	(196.02)	(6.13)	(202.15)
Actuarial (Gains) Losses	82.67	283.27	26.53	(7.04)	385.43	(5.49)	379.94
At September 30, 2019	1,035.91	1,843.69	200.49	110.99	3,191.08	47.02	3,238.10
Less Fair value of plan assets	(766.62)	-	-	-	(766.62)	-	(766.62)
Amount recognized in statement of financial position.	269.29	1,843.69	200.49	110.99	2,424.46	47.02	2,471.48

Unit : Million baht

2018

	Post-Employment Benefits					Other Long-term	
	Staff Pension fund	Legal severance plan	Unused vacation plan	Retirement award	Total	25 years long- service award	Total
At October 1, 2017	1,058.56	1,148.54	171.13	66.19	2,444.42	32.40	2,476.82
Service cost	39.64	78.65	11.71	8.56	138.56	4.44	143.00
Interest cost	13.24	24.65	3.67	2.61	44.17	1.14	45.31
Benefits paid	(77.17)	(62.74)	(9.36)	(5.45)	(154.72)	(4.02)	(158.74)
Actuarial (Gains) Losses	(23.67)	(48.68)	(7.23)	42.13	(37.45)	19.99	(17.46)
At September 30, 2018	1,010.60	1,140.42	169.92	114.04	2,434.98	53.95	2,488.93
Less Fair value of plan assets	(827.58)	-	-	-	(827.58)	-	(827.58)
Amount recognized in statement of financial position.	183.02	1,140.42	169.92	114.04	1,607.40	53.95	1,661.35

Expenses recognized in the statements of comprehensive income, as follows:

Unit : Million baht

2019

	Post-Employment Benefits					Other Long-term	
	Staff Pension fund	Legal severance plan	Unused vacation plan	Retirement award	Total	25 years long- service award	Total
<u>Statements of income</u>							
Past service cost	-	355.17	-	-	355.17	-	355.17
Service cost	37.05	99.42	10.65	6.74	153.86	3.66	157.52
Interest cost	13.05	38.09	4.14	2.38	57.66	1.03	58.69
Return on plan assets	(10.97)	-	-	-	(10.97)	-	(10.97)
Actuarial (Gains) Losses	-	-	-	-	-	(5.49)	(5.49)
Total	39.13	492.68	14.79	9.12	555.72	(0.80)	554.92
<u>Other comprehensive income</u>							
Actuarial Gains (Losses)	(82.67)	(283.26)	(26.54)	7.04	(385.43)	-	(385.43)
Total	(82.67)	(283.26)	(26.54)	7.04	(385.43)	-	(385.43)

Unit : Million baht

	2018					Other Long-term	
	Post-Employment Benefits					Employee Benefits	
	Staff Pension fund	Legal severance plan	Unused vacation plan	Retirement award	Total	25 years long-service award	Total
<u>Statements of income</u>							
Service cost	39.64	78.65	11.71	8.56	138.56	4.44	143.00
Interest cost	13.24	24.65	3.67	2.61	44.17	1.14	45.31
Return on plan assets	(10.69)	-	-	-	(10.69)	-	(10.69)
Actuarial (Gains) Losses	-	-	-	-	-	19.99	19.99
Total	42.19	103.30	15.38	11.17	172.04	25.57	197.61
<u>Other comprehensive income</u>							
Actuarial Gains (Losses)	23.67	48.68	7.23	(42.13)	37.45	-	37.45
Total	23.67	48.68	7.23	(42.13)	37.45	-	37.45

Movements in the present value of the plan assets – Staff Pension fund, as follows:

Unit : Million baht

	2019	2018
Beginning Balance	827.58	856.99
<u>Add</u> Return on plan assets	10.97	10.69
Obligation payable from MWA.	35.53	37.07
<u>Less</u> Benefits paid	(107.46)	(77.17)
Ending Balance	766.62	827.58

Principal actuarial assumptions

Annual percentage (%)

Discount rate at 30 September 2019	1.39 – 2.16
Salary increase rate	7.50
Employee turnover rate	0.78

6.15 DEFERRED REVENUES comprised of:

Unit : Million baht				
2019				
	<u>As at Oct</u> <u>1, 2018</u>	<u>Added</u>	<u>Recognized</u> <u>as income</u>	<u>As at Sep</u> <u>30, 2019</u>
Other assets	13.29	4.00	(2.98)	14.31
Water meter	1,425.56	336.21	(369.53)	1,392.24
Government plumbing works	322.42	14.08	(36.61)	299.89
Private plumbing works	4,214.19	809.57	(434.46)	4,589.30
Total	<u>5,975.46</u>	<u>1,163.86</u>	<u>(843.58)</u>	<u>6,295.74</u>

Unit : Million baht				
2018				
	<u>As at Oct</u> <u>1, 2017</u>	<u>Added</u>	<u>Recognized</u> <u>as income</u>	<u>As at Sep</u> <u>30, 2018</u>
Other assets	16.41	-	(3.12)	13.29
Water meter	1,495.02	310.89	(380.35)	1,425.56
Government plumbing works	341.97	16.02	(35.57)	322.42
Private plumbing works	3,913.50	705.69	(405.00)	4,214.19
Total	<u>5,766.90</u>	<u>1,032.60</u>	<u>(824.04)</u>	<u>5,975.46</u>

6.16 GOVERNMENT GRANTS

As at September 30, 2019 and 2018, the government grants amounting to Baht 110.95 million and 125.84 million respectively. The government grant is money from government to contribute for plumbing work constructions which are MWA shown government grant in related with assets by deducted from value of the related assets and recognized them in gain or loss according to the useful life of assets in the form of reduced depreciation.

6.17 NON-CURRENT LIABILITIES comprised of :

Unit : Million baht		
	2019	2018
Collective and metering representative deposits	23.49	21.46
Work guarantee (retention) and Contractor deposits	<u>337.30</u>	<u>288.69</u>
Total	<u>360.79</u>	<u>310.15</u>

6.18 CAPITAL

Capital, amounted to Baht 8,386.85 million, as at September 30, 2019, included initial capital Baht 1,192.71 million and government budget Baht 7,194.14 million.

6.19 RAW MATERIALS AND CONSUMABLES USED comprised of:

	Unit : Million baht	
	<u>2019</u>	<u>2018</u>
Raw water	279.05	266.95
Chemical	302.47	287.51
Electricity utility	1,424.02	1,309.75
Pipe and equipment for repair and maintenance	167.52	189.79
Other raw material and consumables used	138.97	129.79
Total	<u>2,312.03</u>	<u>2,183.79</u>

6.20 REMUNERATION FOR DIRECTORS

The remuneration for directors for the year ended September 30, 2019 and 2018 amounting to Baht 23.34 million and Baht 18.06 million are expense of Director and MWA's Board of directors.

6.21 OTHER OPERATING EXPENSES comprised of:

	Unit : Million baht	
	<u>2019</u>	<u>2018</u>
Contract out - inspection and improvement of distribution valve	19.60	19.79
Contract out - leakage pipes survey and repair	331.91	310.11
Contract out - other services	226.86	207.13
Outsourcing expenditure	210.49	228.60
Collective and metering representative expenses	130.07	126.84
Repair and maintenance expenses	151.96	119.84
Work contracts expenses	9.71	36.59
Other expenses	828.72	331.70
Total	<u>1,909.32</u>	<u>1,380.60</u>

Other expenses for the year ended September 30, 2019 in the amount of Baht 828.72 million, partly due to the compensation that MWA pays Thames Water International (Thailand) Limited and Thames Water International Service Limited. According to the judgment of the Central Administrative Court red case no. 1047/2012, which the MWA has deposited according to the judgment of the Administrative Court on May 31, 2019 in the amount of Baht 422.07 million.

6.22 GAINS (LOSSES) ON FOREIGN EXCHANGE RATE comprised of:

	Unit : Million baht	
	<u>2019</u>	<u>2018</u>
During period (realized)		
- From loans repayment	2.07	12.59
- Foreign currency deposit	-	(1.54)
On September (unrealized)		
- From loans outstanding	2.59	26.95
- Cross currency swap	(2.72)	(19.25)
Total	<u>1.94</u>	<u>18.75</u>

7. DISCLOSURES OF FINANCIAL INSTRUMENT

MWA had entered into Plain vanilla cross currency swap agreement on March 17, 2006, to reduce the risk from exchange rate. Contract principle amount to Yen 11,706.00 million, utilized amount to Yen 5,180.74 million, to the MWA's Lender through 18.5 years contract which details as follows.

Swap contract notional receipt	5,180.74 million Yen
Swap contract interest receipt rate (per annum)	1.70
Swap contract exchange rate	1 JPY = 0.334 THB
Swap contract notional payment	1,730.37 million Baht
Swap contract interest payment rate (percent per annum)	5.759

As at September 30, 2019

Outstanding Loan	1,400.19 million Yen
Remaining Tenor	5 Years
BOT Buying rate as at September 30, 2019	1 JPY = 0.279601 THB

8. ESTIMATE AND CONTINGENT LIABILITIES**8.1 THE CONTINGENT LIABILITIES UNDER CONSIDERATION OF THE ARBITRATION PROCEEDING**

8.1.1 MWA has engaged ST power engineering corporation limited, contract no. S-BK-8 to provide and install of electric substation of Bang Khen water treatment plant with related work according to The eight Bangkok water supply improvement project which issued on May 25, 2011 with construction cost Baht 140.50 million.

On September 15, 2015 MWA has reserved right's notice to collect the delayed fine from ST power engineering corporation limited amount Baht 52.30 million.

On August 8, 2014 ST power engineering corporation limited has submitted a dispute to Thailand Arbitration Center, black case no.77/2016, demanding MWA extended working period and considered to reduce delayed fine to 10 percent which damages amount Baht 36.51 million.

Appointed with both litigants for defined dispute issues on February 6, 2018.

Investigative appointment of claimant's witness on July 12, 2018 August 23, 2018 November 6, 2018 and November 8, 2018 and opposition's witness on November 9, 2018 and November 13, 2018 February 11, 2019 and February 18, 2019

Investigative appointment on July 1, 2 and 8, 2019.

Submit a closing statement on August 30, 2019.

Currently this case is proceeding on The Arbitral Tribunal.

8.1.2 Hydrotek Public Company Limited and Salcon Engineering Berhad has submitted a dispute to Thailand Arbitration Center, black case no.112/2017, dated January 15, 2018, demanding MWA extended working period to 478 days and refunded fine to claimants amount Baht 42.02 million with interest at the rate 7.5 percent per annum, calculated from the date of filing statements of claim until the total payment has been met by contract no. G-PK/RB-8.

On July 12, 2018 Attorney submitted an objection.

Investigative appointment of opposing's witness on March 26, 2019 and April 5, 2019. The claimant requested to postpone the investigative appointment and submit the witness's account. The court allowed the submission of witness accounts and testimony until April 25, 2019.

Investigative appointment on October 9, 10 and 15, 2019.

Currently this case is proceeding on The Arbitral Tribunal.

8.2 THE CASES THAT MWA WAS FILED THE PETITION TO OBJECTION THE ARBITRAL AWARD

8.2.1 MWA has engaged Nawaratpatanakarn public company limited, contract no. G-MC-7D/2 to construct water tunnel and facilities with construction cost Baht 1,142.0 million.

On June 22, 2010 the contractor has submitted a dispute to the Office of the Arbitration Tribunal Board of Trade of Thailand, black case no.5/2010 claimed MWA for compensation on breach of contract amounted to Baht 145.27 million together with interest at the rate of 7.5 percent per annum, calculated from the day following the date of filing statements of claim until the total payment has been met.

On October 31, 2016, the arbitral award ruled by The Arbitral Tribunal ordered the respondent to pay amounting of Baht 8.00 million for the claimant within 60 days from the day following the date of acknowledgment of the arbitral award. If the period in question, the respondent hasn't paid all or part of it to the claimant, to pay interest at the rate of 7.5 percent per annum of the amount owed, calculated from the day following the due date until the total payment has been met.

On January 27, 2017 MWA filed a case through the Central Administrative Court requested the court to revoke such arbitral award.

Currently this case is depending to be consideration of the Central Administrative Court.

8.2.2 MWA has engaged SG-STPE Joint Venture, contract no. E-RW/TR(BK)/(MS)-8(R) to furnish and install of pumping equipment with contract value amounting to Baht 274.05 million and Yen 407.64 million.

On November 18, 2014 MWA issued a letter to terminate the contract due to SG-STPE Joint Venture is unable to finish the contract as scheduled, although the MWA has extended the contract for another 120 days.

On September 10, 2015 the contractor has submitted a dispute to Thailand Arbitration Center, black case no.66/2015, demanding MWA to revoke the termination of contract ,dated November 18, 2014 , and to refrains the forfeit amounting Baht 134.21 million, and to assents the contractor return to work on the rest to finish, and to pays for the remaining cost of the work amounting Baht 54.81 million and settles to the spare parts that delivered amount Baht 5.05 million, and to pay total amount Baht 59.86 million. In addition to suspend or revoke the order of the contractor abandoned the work.

On January 26, 2017 the contractor has additional submitted a dispute, demanding MWA to pay extra amounting Baht 56.61 million that include total amount Baht 116.47 million and Yen 81.53 million.

On December 25 2018, the Arbitral Tribunal issued its verdict to the MWA to pay installments of 5-6 percent installments in the amount of Baht 27.40 million and Yen 40.76 million, totaling Baht 43.50 million with the petitioner paying a fine of Baht 69.00 million.

Currently MWA and the claimant filed a request to withdraw the award.

8.3 THE CASES ARE UNDER CONSIDERATION OF DEPARTMENT OF CIVIL DISPUTE SETTLEMENT AND ARBITRATION

8.3.1 Royal Irrigation Department demands from Department of Rural Roads and MWA reimburse damages from river bank protection wall moved and collapsed into Lad Pho canal amounting Baht 32.50 million. The Department of Civil Dispute Settlement and Arbitration had memo no. ๐๙0020(๒๒2)/14 ,dated January 11, 2018 to inform MWA for clarify the facts.

On February 28, 2018 MWA clarified the facts with related documents to attorney.

Currently this case is proceeding of attorney.

8.3.2 Metropolitan Electricity Authority (MEA) demands from MWA to settle final period for TIE LINE electric system improvement 69 KV and setting them at electric substation of Samsen Water Treatment Plant amounting Baht 4.09 million. The Department of Civil Dispute Settlement and Arbitration had memo no. ๐๙0020(๒๒1)/6 ,dated January 5, 2018 to inform MWA for clarify the facts.

On March 29, 2018 MWA had memo to assign associated staff for clarify the facts. MWA clarified the facts with related documents to attorney.

On July 3, 2018 MWA appointed MEA to clarify the facts.

On January 16, 2019 MWA confirmed the facts and clarified additional facts and brought the witnesses to further clarify the facts to the prosecutor who held the case.

The Department of Civil Dispute Settlement and Arbitration requests the representatives of the MWA to give additional statements on April 24, 2019.

Currently this case is being processed by the prosecutor who owns the file.

8.4 MWA was charged 18 cases of lawsuit, estimated total claims for compensation and damages amount of Baht 271.49 million, as follow:

8.4.1 The three civil cases claimed for compensation Baht 87.13 million, on contract default, which one is being considered in the Civil Court, one case of the Appeal Court and another one is being considered in the Supreme Administrative Court.

8.4.2 The fourteen civil cases claimed for damages Baht 184.34 million, They are being considered. One cases is in the Civil Court, one case is in the Appeal Court, six cases are in the Central Administrative Court, three cases are in the Supreme Administrative Court, and the other three cases are in the Supreme Court.

8.4.3 The civil case claimed for damages amounting Baht 0.02 million. This case is in the consideration of the Central Administrative Court.

9. RECLASSIFICATION

	Unit : Baht		
<u>Transactions</u>	<u>Before adjustment</u>	<u>Adjustment</u>	<u>After adjustment</u>
<u>Statement of cash flows</u>			
<u>For the year ended September 30, 2018</u>			
Cash flows from operating activities			
Adjustment of net income to cash received			
(paid) From operating activities			
Provision for employee benefit obligations	19,988,709	177,624,596	197,613,305
Operating liabilities increase (decrease)			
Employee benefits paid	58,989,090	(177,624,596)	(118,635,506)

10. Approval of Financial Statements

These financial statements were authorized for issue by the Governor of MWA on February 27, 2020.



Annual Report Satisfaction Survey
Metropolitan Waterworks Authority



Metropolitan Waterworks Authority

Head Office: 400 Prachachuen Road, Tungsonghong, Laksi, Bangkok 10210

Tel : +66 (0) 2504-0123 MWA Call Center : 1125

www.mwa.co.th

